VY Series Owner's Handbook.

COMMODORE
CALAIS

HOLDEN

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Please refer to the inside front cover of the service booklet for the Vehicle Identification Certificate.

Part No. 92084936
June 2002 (VY Print 1)

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We thank you for choosing Holden and want to assure you of our continuing interest in your driving pleasure and satisfaction.

This handbook applies to the current VY model. Therefore, due to different models and options you may find reference in this Handbook to some equipment not fitted to your own vehicle.

Please note that all information, illustrations and specifications in this Handbook are based on the latest production information available at the time of printing. Holden reserves the right to make changes at any time without notice and without incurring any obligation.

Reference is made throughout this Handbook to different engines:

- V6 3800 (V6)
- SUPERCHARGED V6 (V6 supercharged)
- 5.7 ALLOY V8 (V8)

If unsure of which engine is fitted to your vehicle, please lift the bonnet and check the identification on the top of the engine.

CHANGE OF ADDRESS OR OWNERSHIP

Please fill in the form below if you have changed your name, address, bought the car second-hand, or have become the new driver.

Holden requires these details in order to contact the operator in the event of a safety recall and to keep the initial 3 year Roadside Assistance details up to date (refer to Chapter 9). For information about Holden's privacy policy, please visit Holden's website at *www.holden.com.au*.

Please mail to the address on the back of this page.

If Holden Assist is fitted, please also press the Assist button on the rear view mirror to advise of change of address / ownership.

Please tick the appropriate box:

☐ Original Owner ☐ Subsequent Owner

Title: (Mr, Mrs, Miss, Ms, etc.)

First name in full or initials

Surname or Name of Company / Institution / Government Department

Address

Street / box

City / Town

State

Postcode

1st contact phone no

2nd contact phone no

Email address

Car registration number

ISOVIN Number (see Chapter 8)

Place in an envelope and mail to:

The Manager – Warranty Administration
Service Department
Holden Ltd
Box 548D, G.P.O.
Melbourne
Victoria, 3001

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CHAPTER 1

Dashboard

The following page illustrates the dashboard, identifying the gauges, warning lights, controls and switches. Page reference numbers are listed next to each item.

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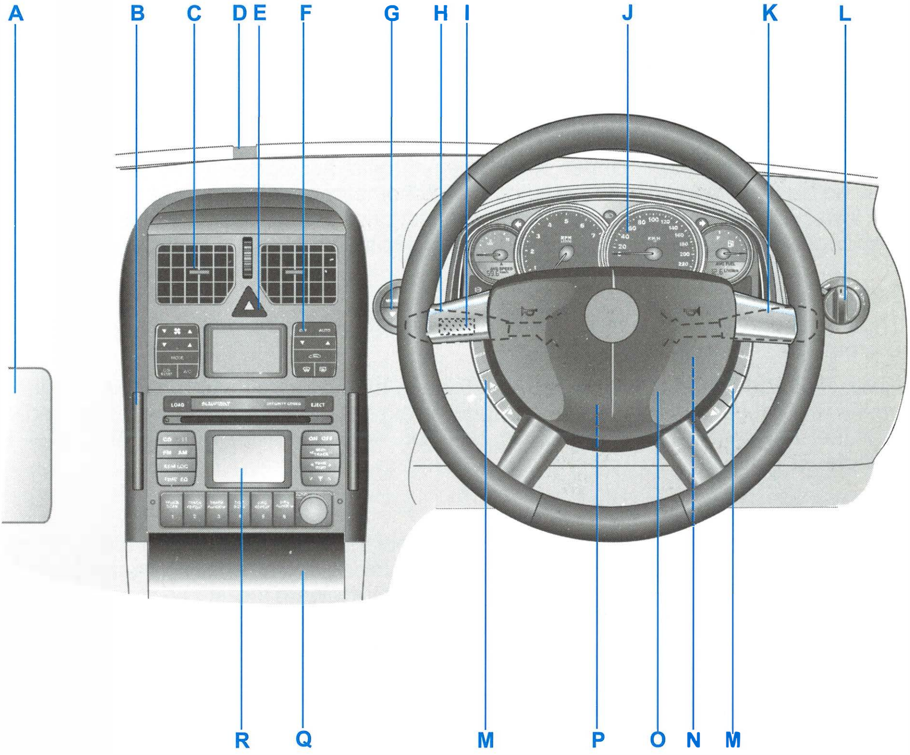
A
B
C
D
E
F
G
H
I
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L
R
Q
M
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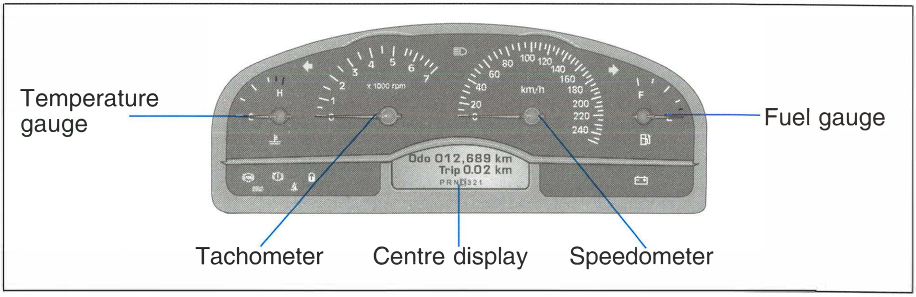
O
N
M
LOAD
EJECT

GAUGES



Speedometer

The speedometer shows vehicle speed in kilometres per hour.

Tachometer

The tachometer shows engine speed in revolutions per minute (r.p.m.). Sustained operation in the RED zone may cause serious engine damage.

Automatic transmission: Under wide open throttle acceleration (accelerator pedal pushed flat to the floor) it is possible that the tachometer needle may briefly touch / enter the lower end of the tachometer's red zone just prior to automatically upshifting into a higher gear. This is normal during wide open throttle and will not harm the engine.

Fuel gauge

The fuel gauge shows the level of fuel in the fuel tank when the ignition is switched ON.
E = empty F = full

Note: Small additions of fuel (less than 15 litres) may take up to 10 minutes to register on the fuel gauge; larger amounts will show up almost immediately. This is designed so that fuel movement, when cornering, will not register on the gauge. Also refer to Chapter 5, FUEL.

Temperature gauge

The temperature gauge indicates the engine coolant temperature when the ignition is switched ON. Stop / start driving in heavy traffic, driving at high speed in warm weather, hill climbing or towing may cause the needle to move toward the 'H'. This is normal, and is not cause for concern. However, if the needle should move all the way to 'H' and remain there for more than 30 seconds, you should stop the vehicle as soon as it is safe to do so.

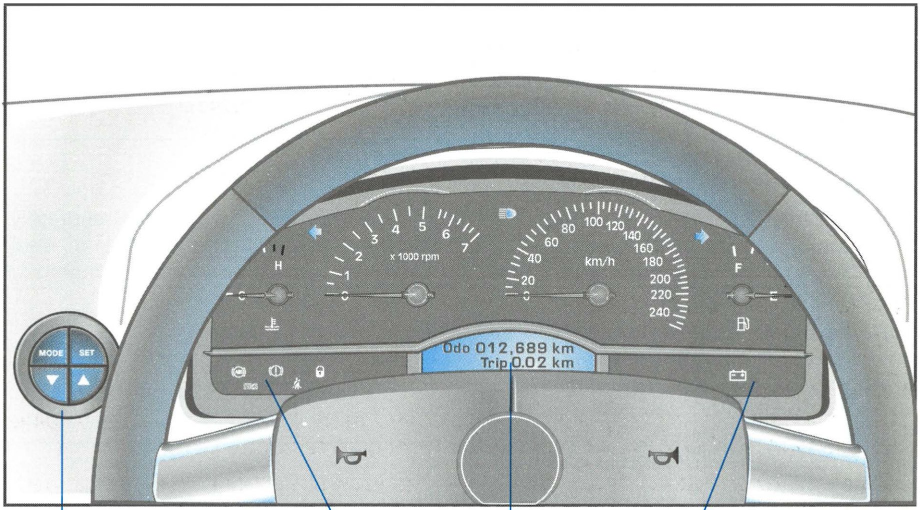
Also refer to Chapter 6, ENGINE OVERHEATING.

Centre display

The instrument panel centre display provides visual information to the driver for a number of vehicle functions, such as – trip computer, radio, warnings and reminders, etc. Two types of display are available. Depending on your luxury level, your vehicle is fitted with a *single* window display or a *triple* window display. The various functions and their associated displays are explained later in this chapter and in the following chapters.

Note: Illumination of the gauges is adjusted by moving the tab on the side of the headlights dial, refer to LIGHTS later in this Chapter.

WARNING / REMINDER INDICATIONS



Trip Computer Switch

Centre Display

Warning / Reminder Lights

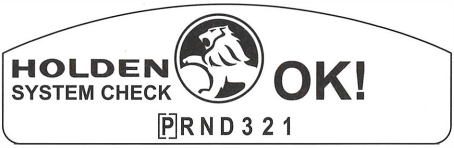
Warning / reminder indications are provided to the driver via the instrument panel as illuminated icons, animated symbols or a combination of both. The illuminated icons appear along the bottom of the instrument panel, below the Temperature and Fuel gauges. The animated symbols appear on the instrument panel centre display. Most warning / reminder indications are accompanied by a chime.

Control of the instrument panel display is provided through the trip computer switch. The switch is located left of the instrument panel.

The trip computer switch has four buttons – MODE, SET, ▲ and ▼.

Display – Ignition ON

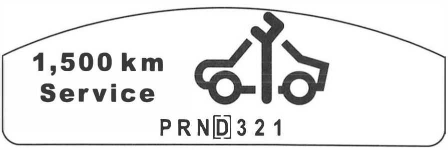
System Check: When the ignition is turned ON, a vehicle System Check is performed and the status is shown on the display. If there are no warnings or service reminders, the display will show a series of Holden welcome screens displaying the Holden logo and finishing with the 'SYSTEM CHECK OK!' screen.



Note: Pressing the MODE button any time during the System Check will cause the display to jump ahead to the last trip computer screen displayed on the last ignition key Off. The System Check will continue to run in the background.

WARNING / REMINDER INDICATIONS cont.

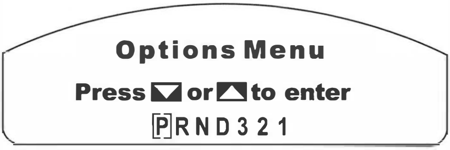
If a service reminder is active, it is displayed for 10 seconds or until the MODE button is pressed, refer to the service booklet in your glovebox for details on service displays. Once the service reminder screen has timed-out or the MODE button has been pressed, the display will advance to the System Check and welcome screens.



1,500 km
Service
PRN[D]321

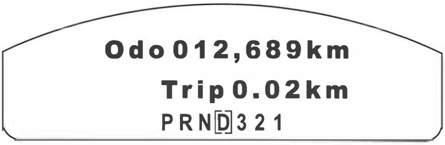
If the System Check detects a problem, it displays the appropriate warning immediately. If a warning is displayed, press the MODE button to acknowledge it (once for each warning) and the display will jump ahead to the last trip computer screen displayed on the last ignition key Off.

Options Menu: After the 'System Check' is completed, the Options Menu will be displayed for 3 seconds, if the vehicle speed is under 10 km/h and no active warnings are present. For details on the Options Menu, refer to CUSTOMISATION MODE on page 1-27.



Options Menu
Press ▼ or ▲ to enter
[P]RND321

Trip Display: If the MODE button is pressed or the screen times-out (3 seconds), the Options Menu disappears and the last trip computer screen on the last ignition key Off is displayed.



Odo 012,689km
Trip 0.02km
PRN[D]321

Note: To display the Odometer screen, if not already displayed, tap the MODE button until the screen is displayed.

Display – Ignition off

When the ignition is turned OFF, the Odometer is displayed on the screen unless a service reminder is active. Active service reminders are displayed for 10 seconds before displaying the Odometer.

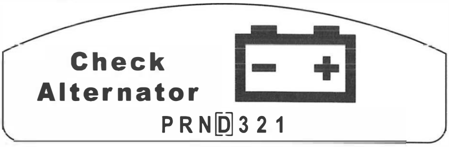
WARNINGS AND REMINDERS

The following warning and reminder indications, depending on the luxury level of your vehicle, may appear on your instrument panel centre display.

Alternator

To check that the alternator warning light is working, the 🔋 icon is illuminated when the ignition is turned to ON, until the engine is started.

If the 🔋 icon and 'Check Alternator' animation illuminate while driving, it indicates that the alternator is not charging properly and you should see your Holden Retailer.



Check
Alternator
PRN[D]321

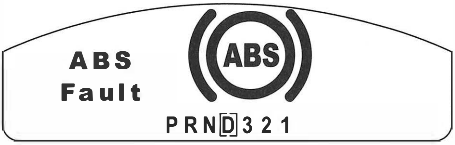
The 'Check Alternator' animation is displayed until the MODE button on the trip computer switch is pressed, whereas the 🔋 icon will remain illuminated until the problem is rectified.

WARNING / REMINDER INDICATIONS cont.

ABS OFF (if fitted)

To check that the Anti-lock Brake System (ABS) warning light is working, the (ABS) icon is displayed for a short time when the ignition is turned to ON.

If the (ABS) icon and 'ABS Fault' animation illuminate when driving, a malfunction of the Anti-lock Brake System is indicated and you should see your Holden Retailer. The vehicle's brake system will still operate conventionally, only the anti-lock operation is disabled, refer to Chapter 4.

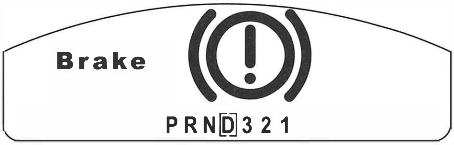


The 'ABS Fault' animation is displayed until the MODE button on the trip computer switch is pressed, whereas the (ABS) icon will remain illuminated until the problem is rectified.

Brake fail and park brake warning

To check that the light is working, the (!) icon is displayed when the ignition is first turned ON and the park brake applied.

If the (!) icon and 'Brake' animation illuminate while driving *and* the park brake is released, a fault with the brakes is indicated. You should immediately stop the vehicle on the side of the road as carefully as possible. Do not proceed until satisfied that braking is possible or that the cause of the problem has been fixed.



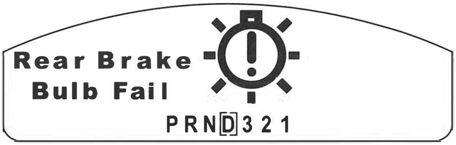
A warning will chime if you attempt to drive off without releasing the park brake fully.

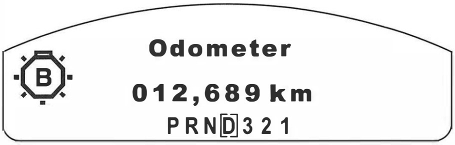
The 'Brake' animation is displayed until the MODE button on the trip computer switch is pressed, whereas the (!) icon will remain illuminated until the problem is rectified.

Rear brake bulb failure

If the 'Rear Brake Bulb Fail' animation illuminates while driving, a fault in the rear brake lamps or high mounted brake lamp is indicated.

The 'Rear Brake Bulb Fail' animation is displayed until the MODE button on the trip computer switch is pressed. The animated symbol then reverts to the original trip computer display with a small bulb failure icon on the left. The icon will remain until the problem is rectified.



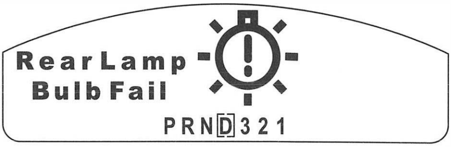


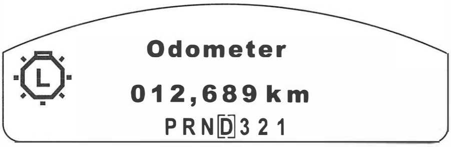
WARNING / REMINDER INDICATIONS cont.

Rear lamp bulb failure

If the 'Rear Lamp Bulb Fail' animation illuminates while driving, a fault in the rear park lamps or the licence plate lamps is indicated.

The 'Rear Lamp Bulb Fail' animation is displayed until the MODE button on the trip computer switch is pressed. The animated symbol then reverts to the original trip computer display with a small lamp failure icon on the left . The icon will remain until the problem is rectified.

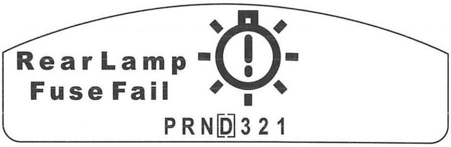


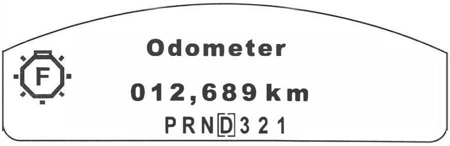


Rear lamp fuse failure

If the 'Rear Lamp Fuse Fail' animation illuminates while driving, a fault in the rear stop lamps fuse or park lamps fuse is indicated.

The 'Rear Lamp Fuse Fail' animation is displayed until the MODE button on the trip computer switch is pressed. The animated symbol then reverts to the original trip computer display with a small fuse failure icon on the left. The icon will remain until the problem is rectified.

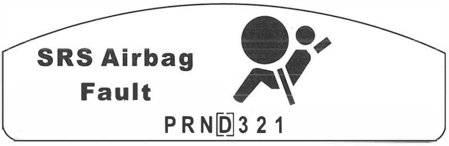




Air bag and seat belt pretensioners

To check that the warning light is working, the **SRS** icon is displayed for a short time when the ignition is first turned ON.

If the icon and 'SRS Airbag Fault' animation illuminate while driving, it indicates that the air bag system or seat belt pretensioner system may not function correctly, especially in an accident and you should see your Holden Retailer immediately.



The warning light illuminates after an accident where the pretensioners, or pretensioners and air bag(s), have activated.

The 'SRS Airbag Fault' animation is displayed until the MODE button on the trip computer switch is pressed, whereas the **SRS** icon will remain illuminated until the problem is rectified.

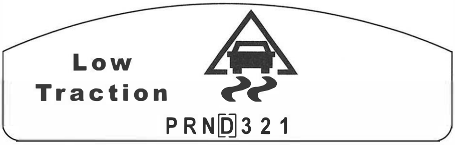
For more information, refer to Chapter 6 for air bags or Chapter 3 for seat belt pretensioners.

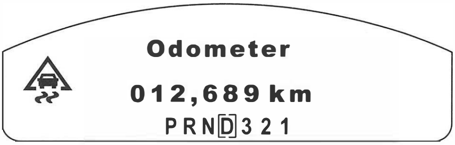
WARNING / REMINDER INDICATIONS cont.

Low Traction (if fitted)

If the 'Low Traction' animation illuminates while driving, it indicates that the traction control system has sensed that your vehicle requires help with road grip and that the system is actively working to stop any wheel spin.

The 'Low Traction' animation is displayed until the MODE button on the trip computer switch is pressed. The animated symbol then reverts to the original trip computer display with a small low traction icon on the left. The icon will remain as long as the low traction situation exits. Refer to Chapter 4 for more information on the traction control system.

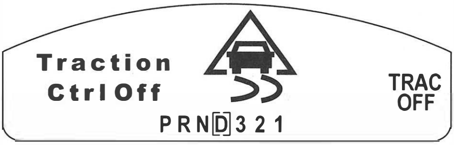


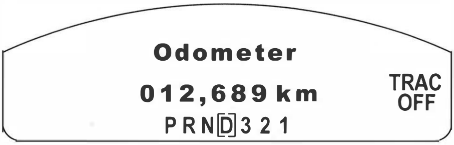


Traction control off (if fitted)

If the 'Traction Ctrl Off' animation illuminates while driving, without the traction control being turned off by the driver, it indicates the traction control system is not working and you should see your Holden Retailer.

The 'Traction Ctrl Off' animation is displayed for 2 seconds. The animated symbol then reverts to the original trip computer display with a small TRAC OFF icon on the right. The icon will remain until the problem is rectified. Refer to Chapter 4 for more information on the traction control system.

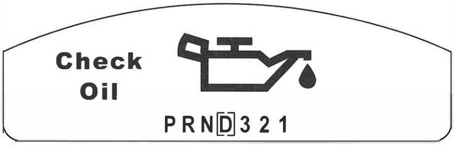


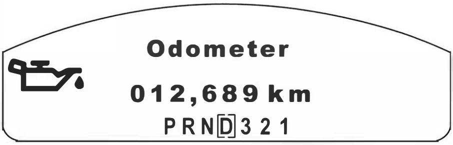


Low oil pressure

If the 'Check Oil' animation illuminates when driving, it indicates that the oil pressure is dangerously low. Stop immediately, turn off the engine and check the engine oil level (refer to Chapter 7 for engine oil level checking information). Do not run the engine with this symbol illuminated. If the oil level is normal, have the system checked at your nearest Holden Retailer.

The 'Check Oil' animation is displayed until the MODE button on the trip computer switch is pressed. The animated symbol then reverts to the original trip computer display with a small oil can icon on the left. The icon will remain until the problem is rectified.





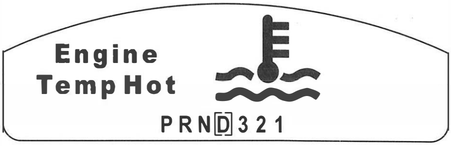
WARNING / REMINDER INDICATIONS cont.

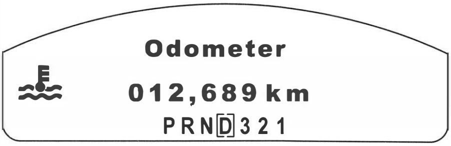
Over temperature

If the 'Engine Temp Hot' animation illuminates while driving, it indicates that the engine coolant temperature is dangerously hot. You should stop the vehicle as soon as it is safe to do so.

The 'Engine Temp Hot' animation is displayed until the MODE button on the trip computer switch is pressed. The animated symbol then reverts to the original trip computer display with a small over temperature icon on the left. The icon will remain until the problem is rectified.

Refer to Chapter 6 for engine overheating instructions.

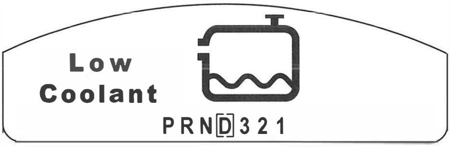


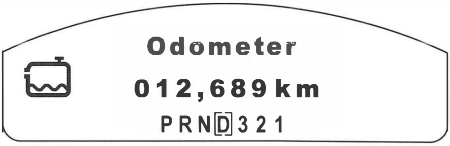


Low coolant

If the 'Low Coolant' animation illuminates while driving, it indicates that the engine coolant level is dangerously low. You should check the level as soon as possible, refer to Chapter 7 for engine coolant level check instructions.

The 'Low Coolant' animation is displayed until the MODE button on the trip computer switch is pressed. The animated symbol then reverts to the original trip computer display with a small low coolant icon on the left. The icon will remain until the problem is rectified.

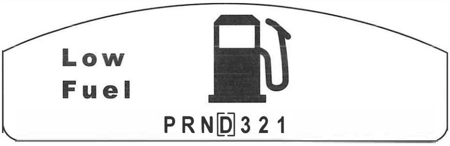


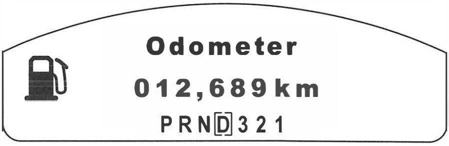


Low fuel

If the 'Low Fuel' animation illuminates when driving, it indicates that the fuel level is low.

The 'Low Fuel' animation is displayed until the MODE button on the trip computer switch is pressed. The trip computer then displays its calculation of kilometres to empty for 10 seconds before reverting to the original trip computer display with a small low fuel icon on the left. The icon will remain until the fuel tank is filled above the low fuel level.



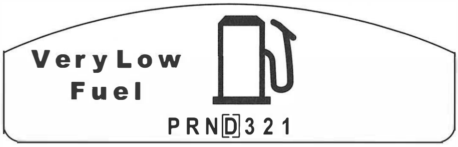


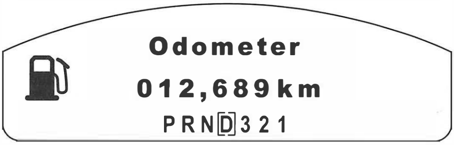
WARNING / REMINDER INDICATIONS cont.

Very low fuel

If the 'Very Low Fuel' animation illuminates when driving, it indicates that the fuel level is very low.

The 'Very Low Fuel' animation is displayed until the MODE button on the trip computer switch is pressed. The trip computer then displays its calculation of kilometres to empty for 10 seconds before reverting to the original trip computer display with a small flashing low fuel icon on the left. The icon will remain until the fuel tank is filled above the very low fuel level.

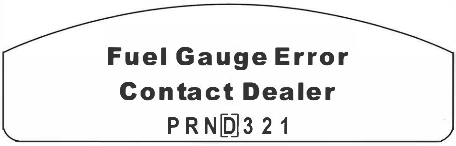


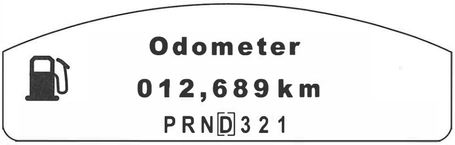


Fuel gauge error

If the 'Fuel Gauge Error Contact Dealer' animation illuminates while driving, a fault in the fuel level measurement system is indicated. You should contact your Holden Retailer as soon as possible.

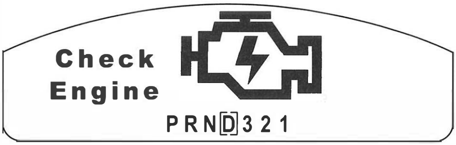
The 'Fuel Gauge Error' animation is displayed until the MODE button on the trip computer switch is pressed. The animated symbol then reverts to the original trip computer display with a small fuel bowser icon on the left. The icon will remain until the problem is rectified.



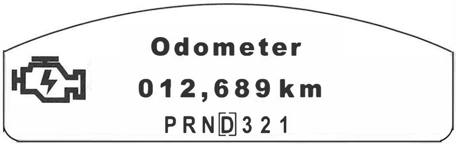


Check engine

If the 'Check Engine' animation illuminates when driving, it indicates a fault in the electronic engine management system or the automatic transmission (if the vehicle is an automatic). Although the vehicle may still be driveable, it is recommended that you reduce load on the powertrain, i.e., reduce driving speed, do not tow heavy loads or heavily load the vehicle. You should have the problem fixed as soon as possible. Only your Holden Retailer has the correct diagnostic computer equipment and training to find and fix the problem.



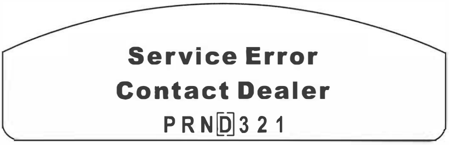
The 'Check Engine' animation is displayed until the MODE button on the trip computer switch is pressed. The animated symbol then reverts to the original trip computer display with a small engine icon on the left. The icon will remain until the problem is rectified.



WARNING / REMINDER INDICATIONS cont.

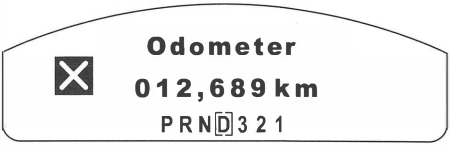
Service error

If the 'Service Error Contact Dealer' animation illuminates while driving, a fault in the instrument panel is indicated. You should contact your Holden Retailer as soon as possible.



Service Error
Contact Dealer
PRNDD321

The 'Service Error' animation is displayed until the MODE button on the trip computer switch is pressed. The animated symbol then reverts to the original trip computer display with a small **X** icon on the left. The icon will remain illuminated until the problem is rectified.



Odometer
012,689 km
PRNDD321

Fog lights (if fitted)

The ≢D icon illuminates when the fog lights are working. Refer further in this Chapter for information on the operation of fog lights.

Seat belt

A warning light is displayed for about 8 seconds when the ignition is first switched ON. The seat belt warning light is designed to remind occupants to fasten their seat belts.

Secuity

The 🔒 light flashes when the vehicle immobiliser and security system is activated.

Turn signals

The appropriate arrow flashes when the lever on the right side of the steering column is moved up or down *and* the ignition is turned to ON.

- Both arrows flash when the Hazard Warning Flasher is switched on, refer further in this Chapter for information on the Hazard Warning Flasher.
- The indicators flash at a quicker rate if a globe has blown.

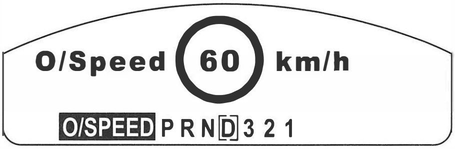
High beam

This ≣D icon illuminates when the headlight high beams are in use.

WARNING / REMINDER INDICATIONS cont.

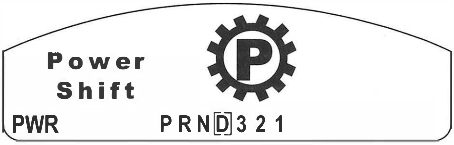
Overspeed

Overspeed is designed to warn you when you have exceeded your pre-selected speed. For information on the Overspeed displays, refer to TRIP COMPUTER further on in this Chapter.


O/Speed
60
km/h
O/SPEED
P R N D 3 2 1

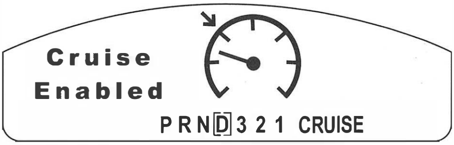
Power shift (with auto trans)

The automatic transmission 'Power Shift' animated symbol and PWR icon are displayed when the transmission is operating in the power mode. For information on the automatic transmission displays, refer to Chapter 4.


Power
Shift
P
PWR
P R N D 3 2 1

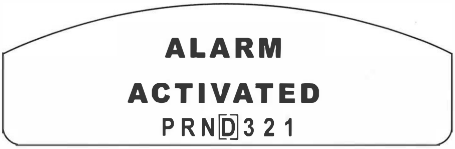
Cruise control (if fitted)

The 'Cruise Enabled' animated symbol and CRUISE icon are displayed when the cruise control is activated and ready for use. For information on the cruise control displays, refer to CRUISE CONTROL further on in this Chapter.


Cruise
Enabled
P R N D 3 2 1
CRUISE

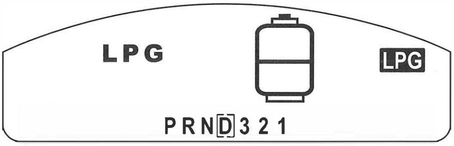
Alarm (if fitted)

The alarm is triggered when any of the doors, bonnet or boot (sedan) / tailgate (wagon) are opened or a *hot-wire* is attempted. For information on the alarm displays, refer to Chapter 2.


ALARM
ACTIVATED
P R N D 3 2 1

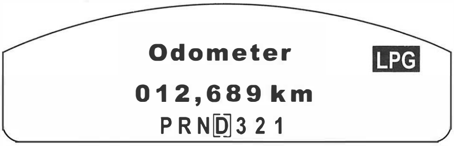
LPG on (if fitted)

When LPG mode is selected, the **LPG** icon and 'LPG' animated symbol illuminate immediately.


LPG
LPG
P R N D 3 2 1

After 2 seconds the display then reverts to the original trip computer display with a small **LPG** icon on the right.

If your vehicle is fitted with LPG, refer to Chapter 5B LPG for further details about displays associated with the LPG system.


Odometer
LPG
012,689 km
P R N D 3 2 1

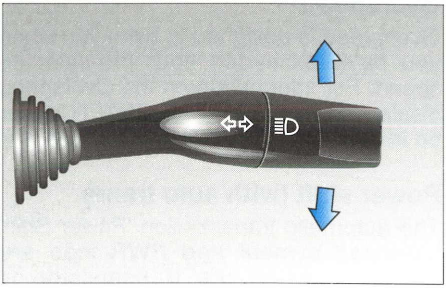
TURN SIGNALS, HORN, TILT / REACH STEERING

Turn signals

The turn signals lever is on the right side of the steering column. Push the lever up to signal a left turn, down to signal a right turn.

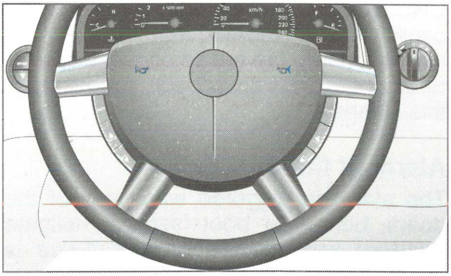
In some turns (such as changing lanes) the steering wheel is not turned far enough to cancel the turn signal. So, to indicate a lane change, move the lever part way and hold. The lever returns to the neutral position when you release it.

An arrow on the instrument panel flashes when the lights are in operation.



Horn

The horn is activated by pressing the horn symbol, on either side of the steering wheel centre pad.



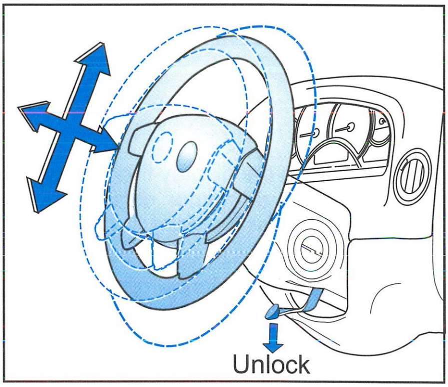
Tilt / reach steering

Move the lock lever under the steering column down.

Grasp the steering wheel and move as required. It can be moved up or down, pulled towards you or pushed away from you.

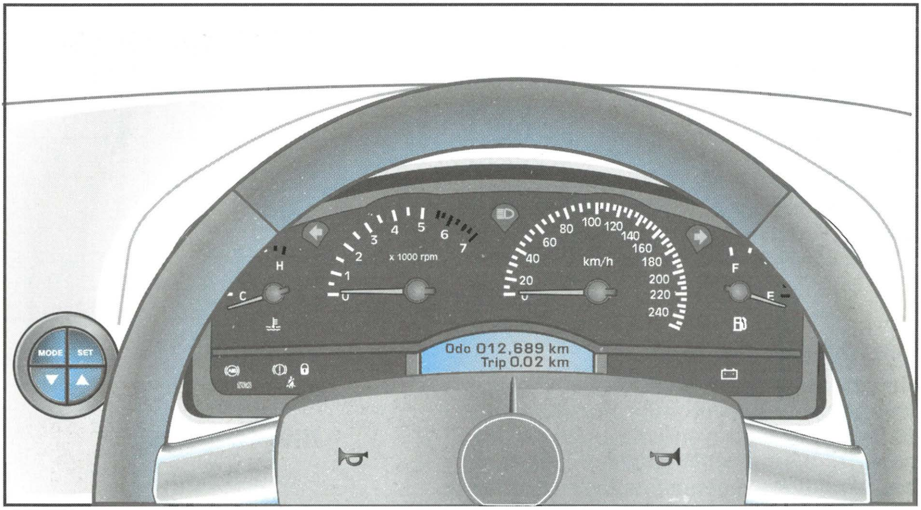
When in the preferred position, move the lock lever up. 'Jiggle' the steering wheel to ensure it has locked securely before driving.

WARNING:
As with all the other driver position controls, do not attempt to adjust the steering wheel while driving.



TRIP COMPUTER – SINGLE WINDOW TYPE

Two types of trip computers are available. Depending on your luxury level, your vehicle is fitted with a *single* window trip computer or a *triple* window trip computer. Explanation regarding the triple window type is found further on in this Chapter.



The buttons for the trip computer are located to the left of the gauges. The single window for the trip computer is located directly beneath the gauges.

Tap the MODE button to scroll between the different sets of displays.

When the ignition is turned on, the trip computer displays the same functions as when the ignition was last turned off.

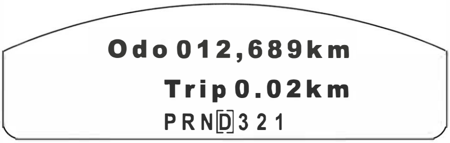
The trip computer can be reset when the Average Speed / Fuel or Odometer / Trip meter are displayed. To reset, press the SET button for less than 2 seconds. Resetting does not affect the Odometer, Overspeed, Distance to Empty, Time to Go, Distance to Go or Remaining Fuel. Tap the MODE button to scroll between the different displays.

Notes:

1. Personal customising is provided in the trip computer for the owner. Customisable functions and features, i.e. ones that can be turned ON / OFF or can be adjusted, are marked with an asterisk (*). Customising details, as well as additional operating notes, are shown further on in this Chapter, refer to CUSTOMISATION MODE.
2. If the wrong buttons are accidentally pressed, causing the window to show a display other than normal, turn the ignition OFF then ON again (*only* when the vehicle is stationary).

Odometer / Trip meter

The Odometer records kilometres travelled since the vehicle was built. The Trip Meter shows the kilometres travelled from the start of a particular trip. Reset the reading to zero by pressing the SET button for less than 2 seconds when this window is shown.

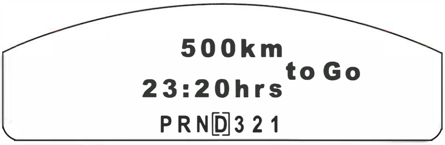


TRIP COMPUTER – SINGLE WINDOW TYPE cont.

TAP MODE BUTTON

*Distance / Time to Go

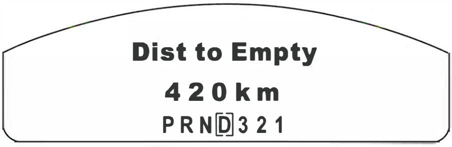
At the start of a trip estimate your distance to arrival (from maps, road signs etc.). Tap the ▲ or ▼ button until the display shows your estimated trip distance. When you drive off, the trip computer constantly updates your time to arrival, based on changing driving speeds. You can use the ▲ or ▼ button to adjust the kilometres any time this display is shown. Time to Go is shown in hours and minutes and is only shown if Distance to Go is more than zero.



TAP MODE BUTTON

Distance to Empty

Distance to Empty is an estimate of how far your vehicle will travel on the current amount of fuel. It is based on your previous fuel usage and is frequently updated. Therefore, as conditions become suited to more economical driving the distance to empty may actually increase, for example from city to highway driving. In addition, movement of fuel in the tank can cause the reading to fluctuate when the fuel level is low.

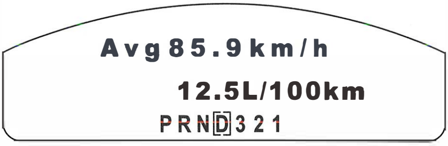


TAP MODE BUTTON

Average Speed / Fuel

The Average Speed / Fuel screen shows the average speed while the engine is running and the average fuel consumed since the trip computer was last reset.

Reset the reading to zero by pressing the SET button for less than 2 seconds when this window is shown. After resetting, a high fuel consumption figure may appear initially due to the short distance travelled and the large amount of fuel used when accelerating.



TAP MODE BUTTON

TRIP COMPUTER – SINGLE WINDOW TYPE cont.

Overspeed

The Overspeed sets the speed you do not want to exceed. For example, if driving in a 60 km/h zone, set overspeed to 60, by tapping the ▲ or ▼ button. When vehicle speed exceeds 60 km/h, the overspeed animated warning message in the instrument panel centre display and an audible chime warns you that you are speeding. At that time, the trip computer automatically shows the overspeed display, allowing you to make adjustments if required.

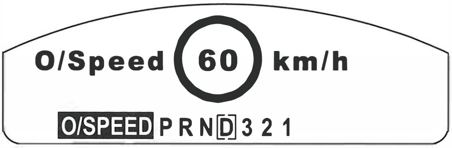
If the overspeed is maintained for longer than 10 seconds but it is less than 15 km/h over the set overspeed value, the overspeed reverts to the original trip computer display with a small O/SPEED icon on the left.

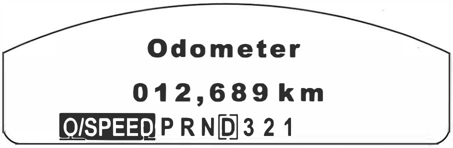
If the overspeed is maintained for longer than 10 seconds and is more than 15 km/h over the set overspeed value, the overspeed warning reverts to a flashing O/SPEED icon.

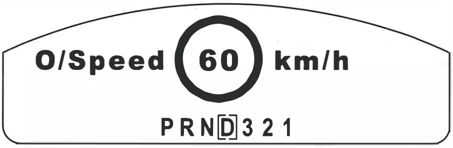
Overspeed is adjustable in 5 km/h units and works at speeds between 20 km/h and 200 km/h. Tap the ▲ or ▼ button as required or hold a button to scroll quickly to a speed. Briefly press the SET button to set the overspeed to the speed at which the vehicle is currently travelling.

Press and hold the SET button for at least 2 seconds (when this display is showing) to turn the overspeed warning on or off.

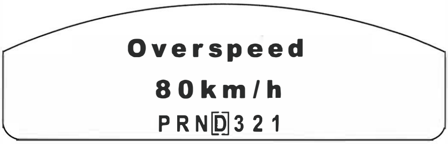
Overspeed presets can also be chosen, refer to Overspeed presets on the next page.







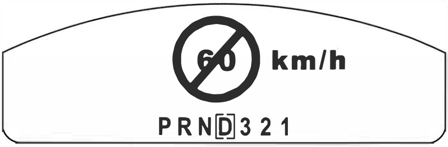
Overspeed adjust – vehicle moving



Overspeed adjust – vehicle stationary

*Underspeed chime

Overspeed provides a chime when your travelling speed exceeds the Overspeed chosen value, whereas Underspeed provides a chime to indicate when your travelling speed again drops below the Overspeed.



TRIP COMPUTER – SINGLE WINDOW TYPE cont.

Overspeed presets

Instead of adjusting Overspeed up and down in 5 km increments (see previous page), you can set four commonly used speeds, e.g. 60, 80, 100 and 110 km/h.

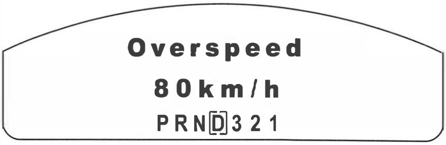
Hold down the MODE button for 2 seconds when the Overspeed display is shown. The display changes from normal Overspeed to Overspeed preset.

P1 is the first preset number, with a default setting of 60 km/h.

Tap the ▲ button to see the second preset, P2, which has a default setting of 80 km/h, P3 has a default setting of 100 km/h and P4 of 110 km/h. Tap the ▲ or ▼ button to move between the preset numbers.

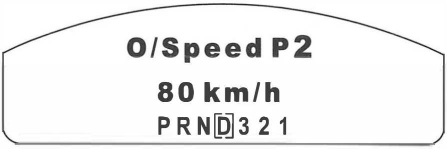
The Overspeed preset display has now replaced the normal Overspeed display in your set of displays. Tap the MODE button to scroll through the other displays.

To change the display back to normal Overspeed, hold down the MODE button for 2 seconds while the Overspeed preset display is shown.



Normal Overspeed

Hold MODE button for 2 seconds



Overspeed preset

Altering overspeed presets

Note: To change the Overspeed presets, the vehicle must be stationary.

The default settings of 60, 80, 100 and 110 km/h can be changed for your individual preference.

The vehicle must be standing still when changing Overspeed presets. To alter, ensure the preset you wish to change is showing, e.g. P2 80 km/h. Then, briefly press the SET button. The display starts to flash. Use the ▲ or ▼ button to adjust the setting. When correct, briefly press the SET button. Each preset can be changed in this way.

The presets are automatically arranged in ascending order.

One or more presets can be assigned to 'OFF' by reducing the preset down to '0' (OFF). When driving, you will then only have three or less presets to choose from. To turn back on, select the 'OFF' preset (when the vehicle is standing still) and use the ▲ button to increase the number.

Overspeed presets must be altered when the vehicle is standing still. If the ▲ and ▼ buttons are briefly pressed while driving, the Overspeed setting is changed to the speed at which you are travelling (in multiples of 5 km/h).

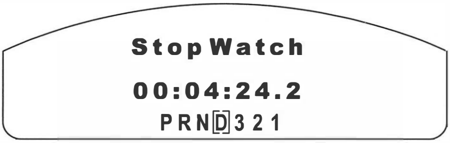
If the SET button is pressed for 2 seconds, either while driving or standing still, Overspeed is turned completely OFF or ON.

TRIP COMPUTER – SINGLE WINDOW TYPE cont.

TAP MODE BUTTON

*Stop watch

The Stop Watch function records elapsed time. It can be used, for example, to measure the time taken to travel between two points on a trip. To start / stop the Stop Watch, press the SET button. To reset the Stop Watch, press and hold the MODE button for more than 3 seconds, a confirmation beep should be heard.



Service due

A service reminder message is built into the trip computer.

The reminder message first appears 1000 km before the service is actually due, giving you time to arrange for the service to be carried out. The message is shown on the Trip computer for 10 seconds whenever the vehicle's ignition is switched ON or OFF, until the trip computer is reset. When the service is overdue, the message flashes for 10 seconds when the ignition is turned ON or OFF (for further information on servicing, refer to the service booklet in your glovebox).

Note: This message is calculated only by distance. Remember that if you are driving infrequently special servicing may be required, refer to the service booklet in your glovebox.

The Service due message will be reset for you by your Holden Retailer when you take your vehicle there to be serviced.

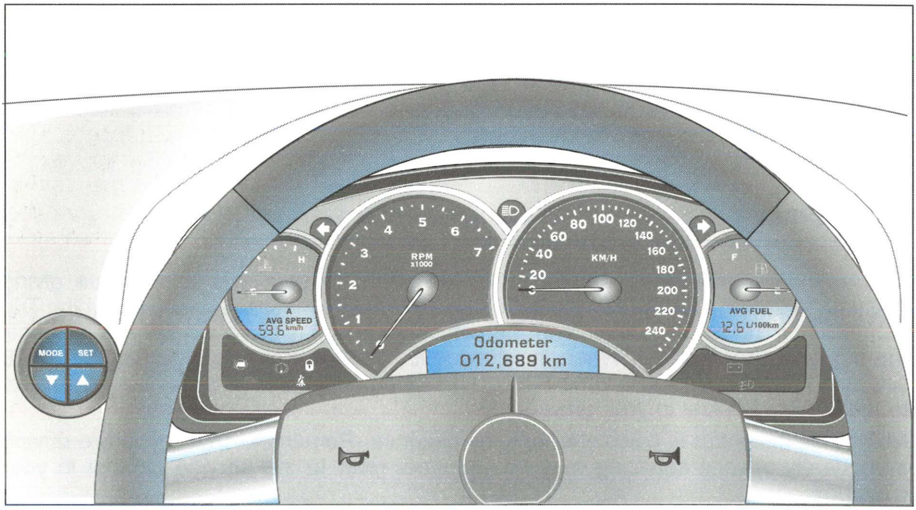
Trip computer notes:

- If the wrong buttons are accidentally pressed, causing the window to show a display other than normal, turn the ignition to OFF then ON again when the vehicle is standing still.
- Several animated warning lights are linked to the instrument panel display windows. Refer to WARNING / REMINDER INDICATIONS earlier in this Chapter.
- When the Overspeed warning symbol is first shown, the Overspeed trip computer display is automatically shown for 10 seconds. This is to show what your pre-selected speed is and to allow you to adjust it if required. After 10 seconds, the trip computer returns to its previous display.
- Some displays change the units of measurement over time. For example, the Time to Go shows hours only above 99 hours and 59 minutes, and hours and minutes below. Time to Go also shows 10 minute units above 2 hours, 5 minute units below 2 hours and 1 minute units below 10 minutes.

X If this symbol or a Service Error message is shown in the display, it indicates a fault in the trip computer / instrument panel and you should see your Holden Retailer.

TRIP COMPUTER – TRIPLE WINDOW TYPE

Two types of trip computers are available. Depending on your luxury level, your vehicle is fitted with a *single* window trip computer or a *triple* window trip computer. Explanation regarding the single window type can be found earlier in this Chapter.



The buttons for the trip computer are located to the left of the gauges. The triple windows for the trip computer are located directly beneath the gauges.

Tap the MODE button to scroll between the different sets of displays.

You will notice that speed related displays are in the left window, distance related displays in the centre and fuel related displays on the right.

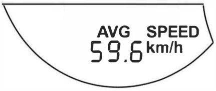
When the ignition is turned on, the trip computer displays the same functions as when the ignition was last turned off.

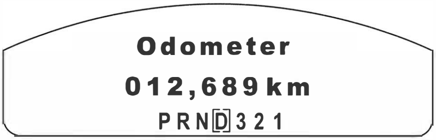
The trip computer can be reset when AVG SPEED or TRIP TIME are shown on the left window. To reset, press the SET button for less than 2 seconds. Resetting does not affect the Odometer, Overspeed, Distance to Empty, Time to Arrival, Distance to Arrival, Instantaneous Fuel or Remaining Fuel.

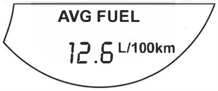
Notes:

1. Personal customising is provided in the trip computer for the owner. Customisable functions and features, i.e. ones that can be turned ON / OFF or can be adjusted, are marked with an asterisk (*). Customising details, as well as additional operating notes, are shown further on in this Chapter, refer to CUSTOMISATION MODE.
2. If the wrong buttons are accidentally pressed, causing the window to show a display other than normal, turn the ignition OFF then ON again (*only* when the vehicle is stationary).

TRIP COMPUTER – TRIPLE WINDOW TYPE cont.







Average Speed

Shows the average speed (while the engine is running) since the trip computer was reset.

Odometer

The odometer records kilometres travelled since the vehicle was built.

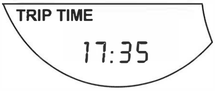
Average Fuel

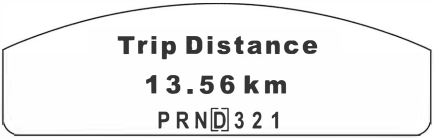
Shows average fuel used since the trip computer was reset. After resetting, a high fuel consumption figure may appear initially due to the short distance travelled and the large amount of fuel used when accelerating.

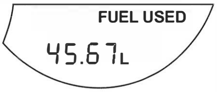
To reset the Average Speed and Average Fuel displays only, hold the SET button down for 8 seconds while this set of functions is displayed.

Note: To reset the Average Speed and Average Fuel displays along with the Trip Time / Trip Distance / Fuel Used set of displays, press the SET button for less than 2 seconds while this set of functions is displayed.

TAP MODE BUTTON







*Trip Time

Shows the 'engine running' time since the trip computer was reset. If this exceeds 99 hours and 59 minutes, the trip time is displayed in hours only.

*Trip Distance

Shows the kilometres travelled from the start of a particular trip.

*Fuel Used

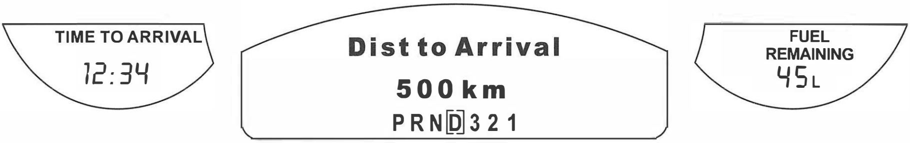
Shows the total litres of fuel used since the trip computer was reset.

To reset the Trip distance to zero, hold the SET button down for 8 seconds while this set of functions is displayed.

Note: To reset the Trip Time / Trip Distance / Fuel Used set of displays along with the Average Speed and Average Fuel functions, press the SET button for less than 2 seconds while this set of functions is displayed.

TAP MODE BUTTON

TRIP COMPUTER – TRIPLE WINDOW TYPE cont.



*Time to Arrival

Shows trip time to arrival in hours and minutes, based on Distance to Arrival. If this exceeds 99 hours and 59 minutes, the time to arrival is displayed in hours only.

*Distance to Arrival

At the start of a trip estimate your distance to arrival (from maps, road signs etc.). Tap the ▲ or ▼ button until the display shows your estimated trip distance. When you drive off the computer constantly updates your time to arrival, based on changing driving speeds. You can use the ▲ or ▼ button to adjust the kilometres any time this display is shown.

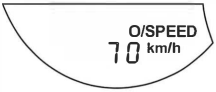
*Remaining Fuel

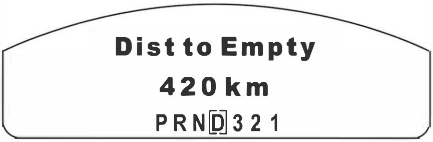
Shows the litres of fuel left in the fuel tank, rounded to the nearest 5 litres.

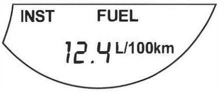
When fuel level is down to approximately 8 litres, 'LO' is displayed instead of litres.

TAP MODE BUTTON

TRIP COMPUTER – TRIPLE WINDOW TYPE cont.







Overspeed

The Overspeed sets the speed you do not want to exceed. For example, if driving in a 70 km/h zone, set overspeed to 70, by tapping the ▲ or ▼ button. The Overspeed setting is displayed in the left window, while the animated warnings are shown in the centre display. When vehicle speed exceeds the setting, the Overspeed warning message and an audible chime warns you that you are speeding. At that time the trip computer automatically shows the Ovespeed display, allowing you to make adjustments if required.

The overspeed function on the triple-window trip computer is the same as the single-window trip computer. For further details, refer to 'Overspeed' on page 1-17 earlier in this Chapter.

Overspeed presets can also be chosen, refer to Overspeed presets on the next page.

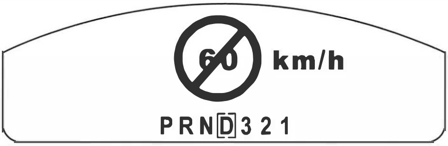
*Underspeed chime

Overspeed provides a chime when your travelling speed exceeds the Overspeed chosen value, whereas Underspeed provides a chime to indicate when your travelling speed again drops below the Overspeed.

Distance to Empty

Distance to Empty is an estimate of how far your vehicle will travel on the current amount of fuel. It is based on your previous fuel usage and is frequently updated. Therefore, as conditions become suited to more economical driving the Distance to Empty may actually increase, for example from city to highway driving.

In addition, movement of fuel in the tank can cause the reading to fluctuate when the fuel level is low.



Instantaneous Fuel

Shows instantaneous fuel usage in litres per 100 km when driving. When speed drops below 10 km/h the usage is shown in litres per hour.

TRIP COMPUTER – TRIPLE WINDOW TYPE cont.

Overspeed presets

Instead of adjusting Overspeed up and down in 5 km increments (see previous page), you can set four commonly used speeds, e.g. 60, 80, 100 and 110 km/h.

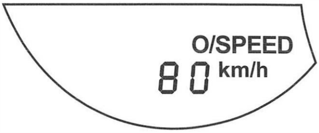
Hold down the MODE button for 2 seconds when the Overspeed display is shown. The display changes from normal Overspeed to Overspeed preset.

P1 is the first preset number, with a default setting of 60 km/h.

Tap the ▲ button to see the second preset, P2, which has a default setting of 80 km/h, P3 has a default setting of 100 km/h and P4 of 110 km/h. Tap the ▲ or ▼ button to move between the preset numbers.

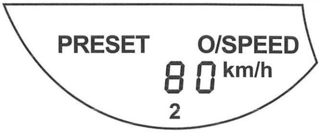
The Overspeed preset display has now replaced the normal Overspeed display in your set of displays. Tap the MODE button to scroll through the other displays.

To change the display back to normal Overspeed, hold down the MODE button for 2 seconds while the Overspeed preset display is shown.



normal Overspeed

Hold MODE button for 2 seconds



Overspeed preset

Altering overspeed presets

Note: To change the Overspeed presets, the vehicle must be stationary.

The default settings of 60, 80, 100 and 110 km/h can be changed for your individual preference.

The vehicle must be stationary when changing Overspeed presets. To alter, ensure the preset you wish to change is showing, e.g. P2 80 km/h. Then, briefly press the SET button. The display starts to flash. Use the ▲ or ▼ button to adjust the setting. When correct, briefly press the SET button. Each preset can be changed in this way.

The presets are automatically arranged in ascending order.

One or more presets can be assigned to 'OFF' by reducing the preset down to '0' (OFF). When driving, you will then only have three or less presets to choose from. To turn back on, select the 'OFF' preset (when the vehicle is standing still) and use the ▲ button to increase the number.

Overspeed presets must be altered when the vehicle is stationary. If the ▲ and ▼ buttons are briefly pressed while driving, the Overspeed setting is changed to the speed at which you are travelling (in multiples of 5 km/h).

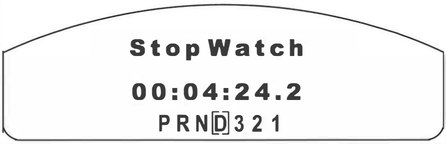
If the SET button is pressed for 2 seconds, either while driving or standing still, Overspeed is turned completely OFF or ON.

TRIP COMPUTER – TRIPLE WINDOW TYPE cont.

TAP MODE BUTTON

*Stop Watch

The Stop Watch function, when enabled, records elapsed time. It can be used, for example, to measure the time taken to travel between two points on a trip. To start / stop the Stop Watch, press the SET button. To reset the Stop Watch, press and hold the MODE button for more than 3 seconds, a confirmation beep should be heard.



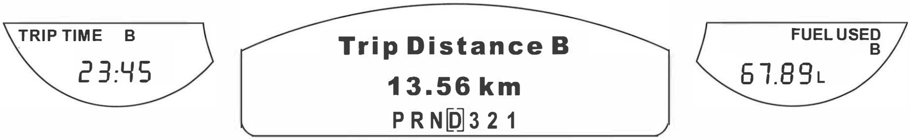
Additional functions

The more commonly used functions of the trip computer are shown on the previous pages. The following information is provided about the additional, more complex Trip function that have been provided in the trip computer for the owner. This additional function can be enabled in Customisation Mode, refer to CUSTOMISATION MODE further on in this Chapter.

When the displays are enabled, press the MODE button to scroll through all the trip computer displays. There are now two Trip Time / Trip Distance / Fuel Used displays (Trip A and Trip B) . Customisation Mode can be used to disable the displays, if required.

*Trip A/B

When the Time to Arrival / Distance to Arrival / Fuel Remaining set of windows are turned on (using the Customisation Mode) and are showing on the display, hold the MODE button down for 2 seconds. Now, instead of the Time to Arrival set of displays, the trip computer shows Trip B details.



Press the MODE button to view your displays. You now have two different sets of trip displays counting, your original set of trip displays (labelled 'A' while 'B' is turned on) and a new set of trip displays, labelled 'B'. This is useful on a long trip, as Trip B can be reset at the beginning of the journey and then locked away (by pressing the MODE button for 2 seconds when 'Trip B' is shown). Time to Arrival / Distance to Arrival / Remaining Fuel will again be shown on the display, but Trip B is still counting away in the background and the original trip display can be used for short distances during the journey. Trip B can be viewed at any time by pressing the MODE button for 2 seconds when Distance to Arrival is shown.

Notes:
1. Trip A / B can also be enabled / disabled in Customisation Mode, refer to CUSTOMISATION MODE further on in this Chapter.
2. If the Trip A and B function is selected, the Average Speed and Average Fuel displays indicate Trip A.

TRIP COMPUTER – TRIPLE WINDOW TYPE cont.

Service due

A service reminder message is built into the trip computer.

The reminder message first appears 1000 km before the service is actually due, giving you time to arrange for the service to be carried out. The message is shown on the Trip computer for 10 seconds whenever the vehicle's ignition is switched ON or OFF, until the trip computer is reset. When the service is overdue the message flashes for 10 seconds when the ignition is turned to ON or OFF (for further information on servicing, refer to the service booklet in your glovebox).

Note: This message is calculated only by distance. Remember that if you are driving infrequently, special servicing may be required, refer to the service booklet in your glovebox.

The Service due message will be reset for you by your Holden Retailer when you take your vehicle there to be serviced.

Trip computer notes:

- If the wrong buttons are accidentally pressed, causing the window to show a display other than normal, turn the ignition to OFF then ON again when the vehicle is standing still.
- Several animated warning lights are linked to the instrument panel display windows. Refer to WARNING / REMINDER INDICATIONS earlier in this Chapter.
- When the Overspeed warning symbol is first shown, the Overspeedtrip computer display is automatically shown for 10 seconds. This is to show what your pre-selected speed is and allow you to adjust it if required. After 10 seconds, the trip computer returns to its previous display.
- Some displays change the units of measurement over time. For example, the Time to Arrival shows hours only above 99 hours and 59 minutes, and hours and minutes below. Time to Arrival also shows 10 minute units above 2 hours, 5 minute units below 2 hours and 1 minute units below 10 minutes.
- Higher luxury level vehicles have a personal identity key system (fully explained in Chapter 2) which remembers different settings used by different keys. If your vehicle is fitted with this system, the trip computer remembers your last selected settings. When the ignition is turned on with your key, your last set of displays and overspeed settings are shown.

X If this symbol or a Service Error message is shown in the display, it indicates a fault in the trip computer / instrument panel and you should see your Holden Retailer.

CUSTOMISATION MODE

Customisation Mode enables the driver to customise some of the vehicle features using the trip computer switch and instrument panel centre display.

Note: Only features that are fitted to the vehicle will be displayed.

Entering customisation mode

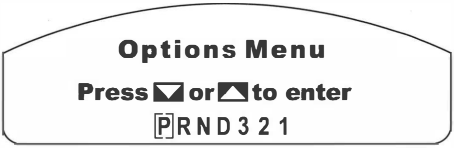
Customisation Mode is accessed via the Options Menu, which can be displayed when the vehicle is stationary or moving slowly. To access the Options Menu:

- When the vehicle is stationary, hold down the MODE button while turning the ignition from OFF to ON.
- When the vehicle has been started, the system check completed and the vehicle speed is less than 10 km/h, then the Options Menu is displayed for 3 seconds.

Notes:

1. If the vehicle speed exceeds 10 km/h, the Options Menu disappears and the display reverts back to the previous trip computer function.
2. Customisation Mode is not accessable if an alarm warning has been activated or a warning symbol on the instrument panel has been triggered.

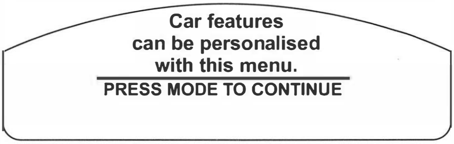
With the Options Menu displayed, use the trip computer ▲ or ▼ button to enter Customisation Mode.



Options Menu

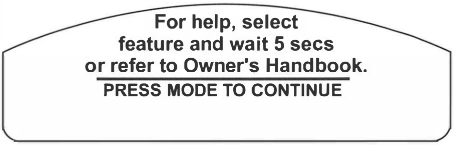
Press ▼ or ▲ to enter

PRND321



Car features
can be personalised
with this menu.
PRESS MODE TO CONTINUE

Help screens: In Customisation Mode there are help screens to assist the driver to understand the feature he or she is adjusting. If a menu item is selected and the screen is left for more than 5 seconds, a help screen pops up to inform the driver how to operate the selected feature.



For help, select
feature and wait 5 secs
or refer to Owner's Handbook.
PRESS MODE TO CONTINUE

Navigating the menu:

- To scroll through the different customisation features, press the MODE button.
- To change the setting, use the ▲ and ▼ buttons.
- To continue, press the MODE button.
- To exit Customisation Mode:
  - press the MODE button to scroll through to the exit screen, or
  - drive the vehicle at more than 10 km/h, or
  - switch the ignition off (only if stationary).

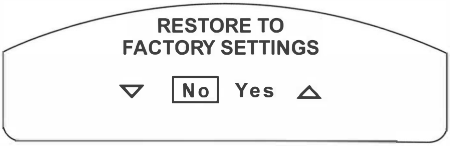
CUSTOMISATION MODE cont.

Options

Once in Customisation Mode, the driver can step through the folowing series of options:

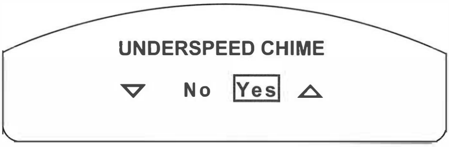
RESTORE TO FACTORY SETTINGS

This option restores the instrument panel, entertainment system and other general vehicle systems to the factory default settings. Use the ▲ or ▼ button to select 'Yes' or 'No'. Press the MODE button to continue. If 'Yes' is selected, the next feature will be displayed after a 2 second delay. This delay is to allow time for the default parameters to be set.



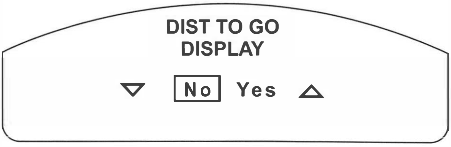
UNDERSPEED CHIME

This option is used to enable / disable the Underspeed chime. Overspeed provides a chime when your travelling speed exceeds the Overspeed chosen value, whereas Underspeed provides an additional chime to indicate when your travelling speed again drops below the Overspeed. Use the ▲ or ▼ button to select 'Yes' or 'No'. If 'Yes' is selected, the Underspeed chime is activated *(Default = Yes)*. Press the MODE button to continue.



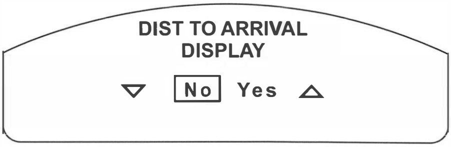
DIST TO GO DISPLAY (single-window only)

This option is used to enable / disable the Distance to Go and Time to Go display. This display is explained earlier in this Chapter. Use the ▲ or ▼ button to select 'Yes' or 'No'. If 'Yes' is selected, the Distance / Time to Go is activated *(Default = Yes)*. Press the MODE button to continue.



DIST TO ARRIVAL DISPLAY (triple-window only)

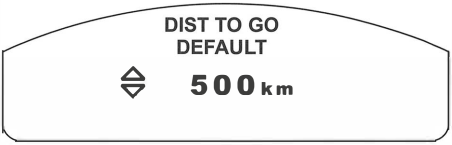
This option is used to enable /disable the Time to Arrival / Distance to Arrival / Remaining Fuel set of displays. This set of displays is explained earlier in this Chapter. Use the ▲ or ▼ button to select 'Yes' or 'No'. If 'Yes' is selected, the Time to Arrival / Distance to Arrival / Remaining Fuel set of displays is activated *(Default = Yes)*. Press the MODE button to continue.



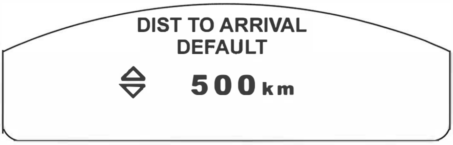
CUSTOMISATION MODE cont.

DIST TO GO / ARRIVAL DEFAULT

The Distance to Go (single-window) or Distance to Arrival (triple-window), can be reset (when not in customisation mode) by pressing the SET button for less than 2 seconds. The distance resets to 500 km, which is the default setting. When in customisation mode, the default setting can be altered up or down with the ▲ or ▼ buttons. When correct, press the MODE button to continue.



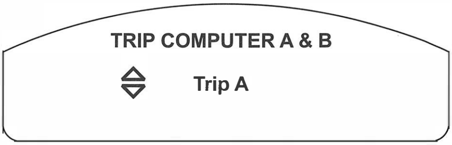
Single-window



Triple-window

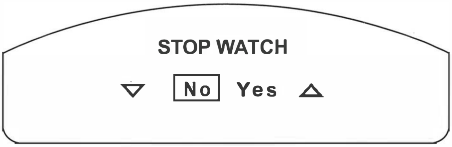
TRIP COMPUTER A & B (triple-window only)

This option is used to select either one or two Trip Time / Trip Distance / Fuel Used set of displays. This set of displays is explained earlier in this Chapter. Use the ▲ or ▼ button to select 'Trip A' or 'Trip A & B' *(Default = Trip A)*. Press the MODE button to continue.



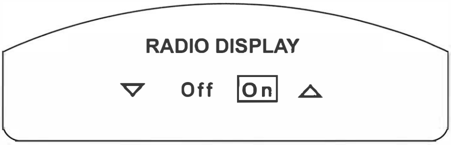
STOP WATCH

This option is used to enable / disable the Stop Watch display. This display is explained earlier in this Chapter. Use the ▲ or ▼ button to select 'Yes' or 'No'. If 'Yes' is selected, the Stop Watch display is activated *(Default = Yes)*. Press the MODE button to continue.



RADIO DISPLAY

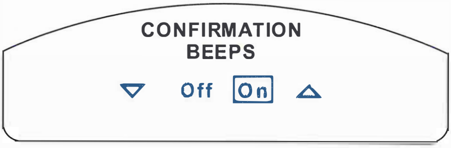
This option is used to enable / disable the entertainment system display on the instrument panel. Detailed information on the operation of the radio and CD is provided in the Audio System Handbook located in the glovebox. Use the ▲ or ▼ button to select 'On' or 'Off'. If 'On' is selected, the Radio display is activated *(Default = On)*. Press the MODE button to continue.



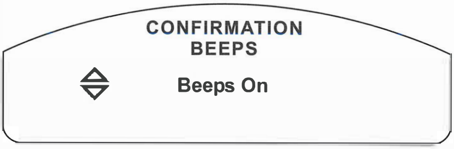
CUSTOMISATION MODE cont.

CONFIRMATION BEEPS

This option is used to enable / disable the audio system confirmation beeps function. This function is explained further in the Audio System Handbook located in the glovebox. The audio system option level fitted to your vehicle determines the menu choices available. Use the ▲ or ▼ button to select 'On' or 'Off' (single CD sytem), 'Beeps On', 'CD Load & Eject Only' or 'Beeps Off' (CD changer system). If 'On' is selected, the audio system confirmation beeps function is activated *(Default = On)*. Press the MODE button to continue.



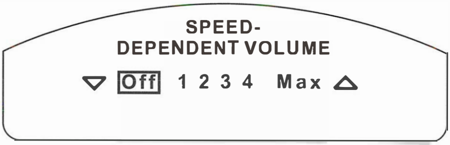
Lower levels



Higher levels

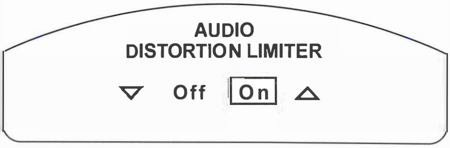
SPEED DEPENDENT VOLUME

This option is used to enable / disable the audio system speed dependent volume function. This function is explained further in the Audio System Handbook located in the glovebox. Use the ▲ or ▼ button to adjust the setting to Off, 1, 2, 3, 4 or Max *(Default = 2)*. Press the MODE button to continue.



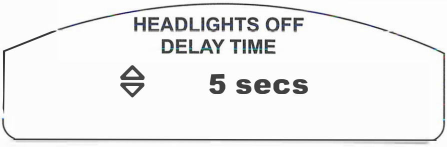
AUDIO DISTORTION LIMITER

This option is used to enable / disable the audio system distortion limiting function. This function is explained further in the Audio System Handbook located in the glovebox. Use the ▲ or ▼ button to select 'On' or 'Off'. If 'On' is selected, the audio distortion limiting function is activated *(Default = On)*. Press the MODE button to continue.



HEADLIGHTS OFF DELAY TIME

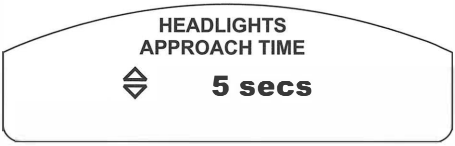
This option is used to adjust the headlights off time delay. This function is explained further on in this Chapter. Use the ▲ or ▼ button to adjust the delay setting between zero and 180 seconds *(Default = 1 second)*. Press the MODE button to continue.



CUSTOMISATION MODE cont.

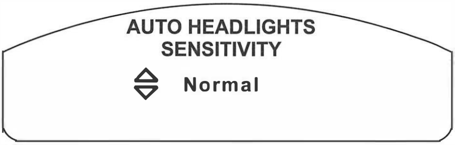
HEADLIGHTS APPROACH TIME

This option is used to adjust the headlights approach illumination time delay. This function is explained further on in this Chapter. Use the ▲ or ▼ button to adjust the delay setting between zero and 90 seconds *(Default = 30 seconds)*. Press the MODE button to continue.



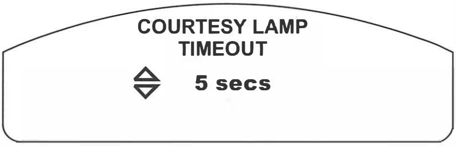
AUTO HEADLIGHTS SENSITIVITY

This option is used to adjust the automatic headlights on sensitivity. This function is explained further on in this Chapter. Use the ▲ or ▼ button to adjust the sensitivity setting to 'Early', 'Normal' or 'Late' *(Default = Normal)*. Press the MODE button to continue.



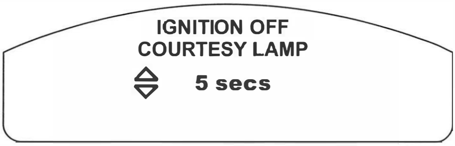
COURTESY LAMP TIMEOUT

This option is used to adjust the length of time that the interior courtesy lamp remains illuminated after opening a door or unlocking (at night only) the vehicle. Use the ▲ or ▼ button to adjust the time setting between zero and 255 seconds *(Default = 30 seconds)*. Press the MODE button to continue.



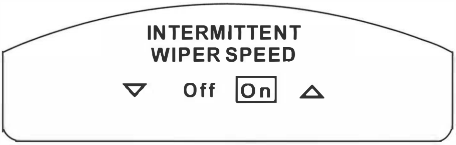
IGNITION OFF COURTESY LAMP

This option is used to adjust the length of time that the interior courtesy lamp remains illuminated after the ignition is turned off (at night only). Use the ▲ or ▼ button to adjust the time setting between zero and 255 seconds *(Default = 30 seconds)*. Press the MODE button to continue.



INTERMITTENT WIPER SPEED

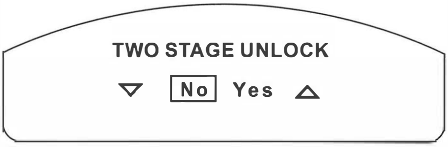
This option is used to enable / disable the road speed sensitive intermittent wiper function. This function is explained further on in this Chapter. Use the ▲ or ▼ button to select 'On' or 'Off'. If 'On' is selected, the road speed sensitive intermittent wiper function is activated *(Default = On)*. Press the MODE button to continue.



CUSTOMISATION MODE cont.

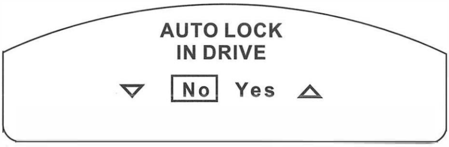
TWO STAGE UNLOCK

This option is used to enable / disable the two stage door unlock function. This function is explained in detail in Chapter 2. Use the ▲ or ▼ button to select 'Yes' or 'No'. If 'Yes' is selected, the Two Stage Unlock function is activated *(Default = Yes)*. Press the MODE button to continue.



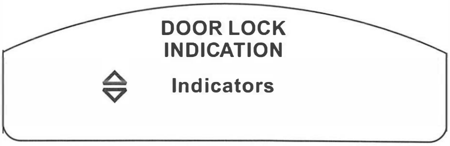
AUTO LOCK IN DRIVE (auto trans only)

This option is used to enable / disable the automatic door locking when in *Drive* function. This function is explained in detail in Chapter 2. Use the ▲ or ▼ button to select 'Yes' or 'No'. If 'Yes' is selected, the Auto Lock In Drive function is activated *(Default = No)*. Press the MODE button to continue.



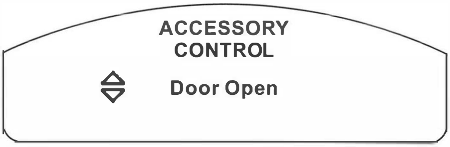
DOOR LOCK INDICATION

This option is used to select the type of indication provided to the driver upon locking and unlocking the vehicle's doors. This function is explained in detail in Chapter 2. Use the ▲ or ▼ button to select 'Indicators' or 'Indicators & Horn' *(Default = Indicators)*. Press the MODE button to continue.



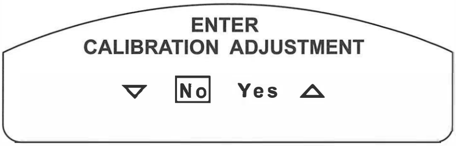
ACCESSORY CONTROL

This option is used to enable / disable the accessories timeout function. This function is explained in detail in Chapter 3. Use the ▲ or ▼ button to select 'Off' or 'Door Open' *(Default = Door Open)*. Press the MODE button to continue.



CUSTOMISATION MODE cont.

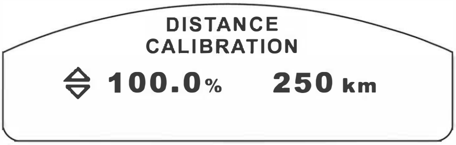
ENTER CALIBRATION ADJUSTMENT (triple-window only)



This option is used to calibrate the trip computer distance and fuel figures. The trip computer uses in its calculations different calibration numbers. These figures are preset for the standard vehicle and do not have to be adjusted. However, each vehicle does vary due to tyre size, tolerances etc. and therefore, the facility is provided to adjust each figure for greater accuracy.

Use the ▲ or ▼ button to select 'Yes' or 'No'. If 'Yes' is selected, the trip computer enters into calibration mode, Distance Calibration adjustment. If 'No' is selected, the menu advances to the EXIT OPTIONS MENU. Press the MODE button to continue.

DISTANCE CALIBRATION



If Distance Calibration is not required, press the MODE button to advance to Fuel Calibration.

If you wish to check / adjust the Distance Calibration, BEFORE ENTERING CUSTOMISATION MODE:

1. Line the vehicle's front wheels against a highway kilometre shield post.
2. Press the MODE button to display the Trip Distance screen.
3. Press the SET button for less than 2 seconds when Trip Distance is showing (to zero the Trip Distance).
4. Drive off to another shield post (between 10 km and 500 km) and stop with the front wheels lined up again.
5. Note the real distance between the shield posts and the distance on the Trip Distance display.
6. If different, enter Customisation Mode and access the Distance Calibration option. The Trip Distance is shown in the centre display. Press the ▲ or ▼ button to adjust the centre display to show the real distance indicated by the shield posts.
7. Press the MODE button to continue to Fuel Calibration.

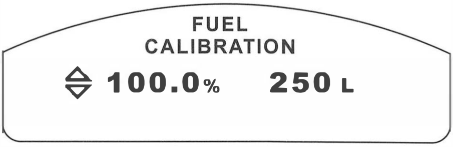
Notes:

- The distance calibration % automatically adjusts as the trip distance is adjusted. The default distance calibration is 100.0%. The maximum it can be adjusted to is 120.0%, the minimum is 80%.
- Altering the distance calibration does not affect the odometer.

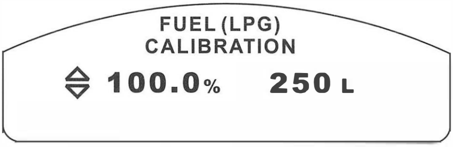
CUSTOMISATION MODE cont.

FUEL CALIBRATION

The display shown will depending on the fuel type your vehicle runs on, Petrol or LPG, or the fuel type selected (Dual Fuel). If Fuel Calibration is not required, press the MODE button to advance to the EXIT OPTIONS MENU.



Petrol display



LPG display

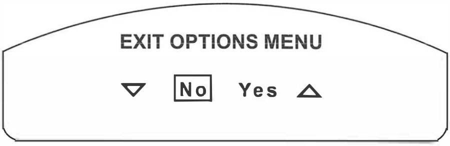
If you wish to check / adjust the Fuel Calibration, work out the following BEFORE ENTERING CUSTOMISATION MODE:

1. Press the SET button for less than 2 seconds when Fuel Used is showing in the right hand window of the instrument panel display (to zero the Fuel Used).
2. Then, for at least five consecutive fuel fills, record the total litres added (but no more than 500 litres), according to the service station fuel bowser.
3. If this is different to the Fuel Used reading, enter Customisation Mode and access the Fuel Calibration option. The Fuel Used is shown in the centre display. Press the ▲ or ▼ button to adjust the display to show the actual total fuel used according to the service station fuel bowser.
4. Press the MODE button to continue to EXIT OPTIONS MENU.

Note: The Fuel Calibration % automatically adjusts as the fuel used is adjusted. The default fuel calibration is 100.0%. The maximum it can be adjusted to is 120.0%, the minimum is 80%.

EXIT OPTIONS MENU

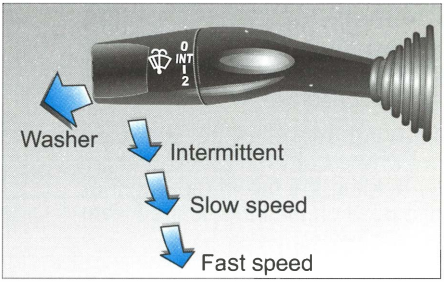
This option is used to either exit Customisation Mode options menu or to return to the start of the options menu. Use the ▲ or ▼ button to select 'Yes' or 'No'. If 'Yes' is selected, the trip computer exits calibration mode and returns to the previous trip computer display. If 'No' is selected, the menu jumps back to the start of the options menu, RESTORE TO FACTORY SETTINGS display. Press the MODE button to continue.



WIPERS and WASHERS

The lever on the left of the steering column controls the front and rear wipers (wagon only) and washers, which operate when the ignition is turned to either ON or ACCESSORIES.

Front wipers and washers

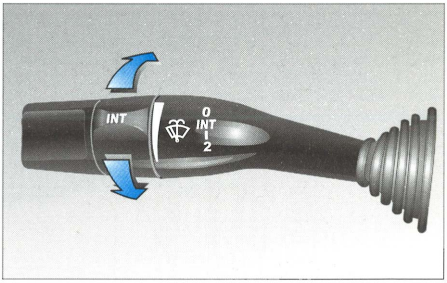


Never operate the wipers on dry glass, as this will damage the rubber and scratch the glass. To spray water onto the windscreen, pull the lever towards you and hold as long as required. This automatically turns on the wipers for a short time, if not already operating.

Push the lever down to turn on the wipers. If just held gently down the wipers sweep 'intermittently' once every few seconds. The wipers sweep intermittently as long as the lever is held.

Pushing the lever further down, to the first 'stop' switches the wipers to the intermittent position and allows the hand to be removed from the lever.

In addition,on vehicles not fitted with variable intermittent wipers, the intermittent wipe speed can be set to be *road speed dependent*, which means that as the vehicle speeds up, so do the wipers. To enable / disable this function, refer to CUSTOMISATION MODE earlier in this Chapter.

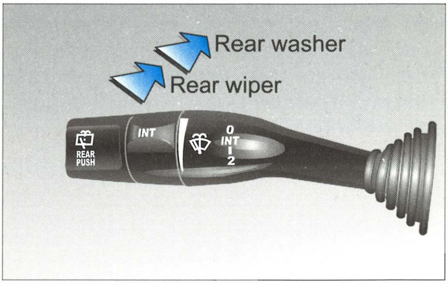


Pushing the lever to the second 'stop' turns the wipers to slow speed. Pushing the lever further down, to the third stop, turns the wipers to fast speed.

Variable intermittent (if fitted): The frequency of intermittent wipe can be varied by moving the middle section of the lever, marked 'INT'. Rotate up for a more frequent wipe, or down for a less frequent wipe.

Refer to Chapter 7 when topping up washer fluid.

Rear wiper and washer (wagon)



Push the lever away from you, to the first 'stop', to turn on the rear wiper. To turn on the rear washer, push the lever further and hold as long as required.

The rear wiper usually has a delayed sweep. However, on wagons built with an automatic transmission the rear wiper changes to a continuous sweep when reverse gear is selected.

LIGHTS

OFF
All lights off

Dimmer – instrument lighting

The instruments are automatically illuminated when the park lights are switched on.

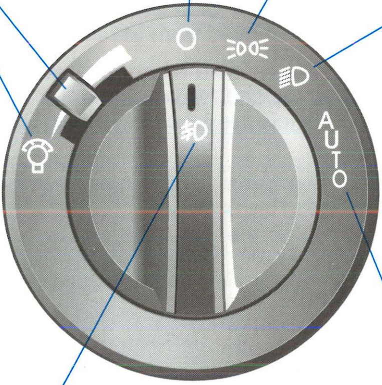
The lighting can be adjusted anywhere between *dim* and *bright* by holding the tab in the bright or dim position until the desired level is reached.

Park lights

Turns on the park, tail, rear licence and instrument panel lights.

Headlights

Turns on the headlights (in addition to all the park lights).



Fog lights (if fitted)

Pull the switch outwards to turn the fog lights on and push the switch inwards to turn the fog lights off, when the light switch is turned to park lights or headlights. The light in the switch and on the instrument panel glows when the fog lights are working.

Auto

Headlights and park lights automatically switch off and on, as required. High / low beam selection must still be manually controlled.

The light sensor is centrally mounted on the top of the dashboard. Be careful not to cover up the sensor, as this may affect operation and it should occasionally be wiped clean.

LIGHTS cont.

Automatic headlights

When the headlight switch is left in the AUTO position, the headlights and park lights automatically switch off and on with the ignition switch or through the approach lighting feature (see 'Headlights on when approaching the vehicle'). High / low beam selection must still be manually controlled.

Automatic headlight sensitivity

The headlights can be set to come on automatically at different light levels. The headlight sensitivity can be adjusted to Early, Normal or Late, refer to CUSTOMISATION MODE earlier in this Chapter.

Automatic headlights off

Leaving the head / park lights on when the engine is not running will eventually flatten the battery. To prevent this, the park / head lights switch off when the ignition has been switched from ON to OFF and the driver's door is opened, the vehicle senses that the driver has forgotten to switch off the lights. The lights stay off until the ignition is again switched ON, or the lights are turned back ON manually via the headlight switch.

The headlights can be set to automatically switch off *after* you have locked the vehicle and walked away, which is useful for illuminating a path for example. To set / adjust the time delay from when the driver's door is opened to when the lights automatically switch off, refer to CUSTOMISATION MODE earlier in this Chapter.

If you wish to have the lights on when leaving the vehicle, wait until they have been automatically switched off, then turn the light switch first to off, then to park or headlights.

Headlights on when approaching the vehicle

This feature is designed to provide additional security, when returning to the vehicle at night. When the UNLOCK button on the ignition key is used, the vehicle's exterior lights will come on for predefined time or until the vehicle is relocked.

However, the lights will only turn on to the position that the headlight switch is in when the vehicle was left, i.e. if the switch is in AUTO or HEAD LIGHTS, the headlights will come on, if the switch is in PARK LIGHTS, the park lights will come on, if the switch is OFF no lights will come on.

To set / adjust the time the headlights stay on after the UNLOCK button has been pressed, refer to CUSTOMISATION MODE earlier in this Chapter.

Headlights and dimming instruments note

When the headlights are switched on the instruments are automatically illuminated. Once illuminated the driver has the ability to adjust their brightness, see previous page. Some illuminated areas of the vehicle have been linked to the brightness control (trip computer, headlight switch, radio etc.). This means that the interior ambience can be adjusted to your preference.

When the headlights are turned OFF then ON, the brightness level reverts to the last adjusted setting.

Personal Identity Keys on higher luxury levels: When the key is inserted in the ignition and turned to ON, the system identifies the key and sets the brightness and headlight time delay to the last adjustments used for that key. Also refer to Chapter 2.

LIGHTS cont.

Fog lights (if fitted)

Fog lights are designed to provide a different illumination of the road to the usual headlight beam. Depending on the density of the fog, different combination of lights will improve vision. For instance, in very heavy fog, vision may be improved by turning the headlights off, and just having the park lights and fog lights on.

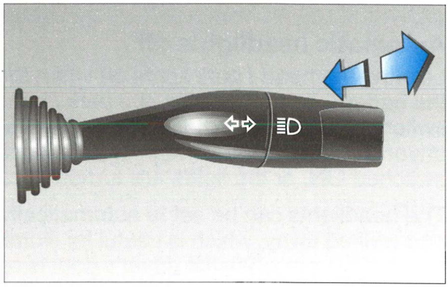
Driving speed should be reduced in fog.

It is recommended that you check your State's laws regarding use of fog lights when driving.

High / low beam

High / low beam is controlled by the lever on the right side of the steering wheel column. With the headlights on, push the lever away from you, until you feel a click, then release. The headlights will change from low to high beam. When the high beams are in use, a blue ≣D symbol on the instrument panel is displayed.

It is also possible to flash the high beams for signalling purposes (even if the headlights and / or ignition are switched off) by pulling the lever towards you; the lights remain on high beam as long as the lever is held.



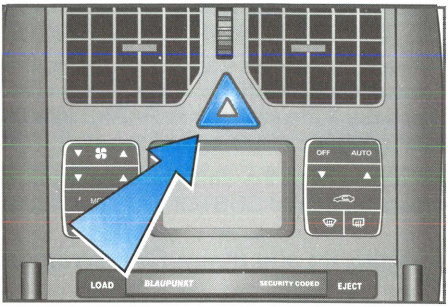
Hazard warning flasher

Press the switch to turn the hazard warning flasher on and off. The hazard warning flasher works regardless of the ignition position.

When turned on, all turn signals flash continuously.

Use the hazard warning flasher to warn other drivers any time your vehicle becomes a traffic hazard, day or night.

Use of the hazard warning flashers while the vehicle is moving is illegal in some States or Countries.



RADIO / CD, CLOCK

Radio, clock and CD

Detailed information on the operation of the radio and CD is provided by the Audio System Handbook in the glovebox.

Operating information for adjusting time, adjusting the antenna height, Personal Identification Number (PIN) and *remote* control of the radio via the steering wheel is provided on these pages.

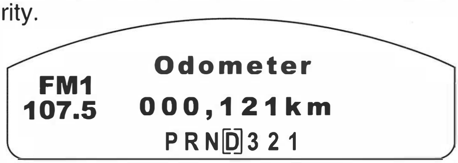
Radio / CD display

If 'Radio Display' is turned ON in Customisation Mode, then the more relevant audio system information is also shown on the instrument panel centre display.

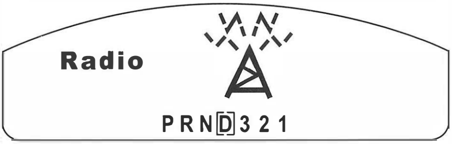
Notes:

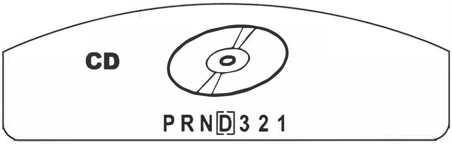
- The audio system information will only be shown if the radio / CD is the original factory fitted item.
- If a warning message is active, the radio / CD information will not be displayed, as the warning messages have priority.

If the radio / CD is ON when the ignition is turned ON, the display will show the trip computer information with the radio / CD information on the left side.



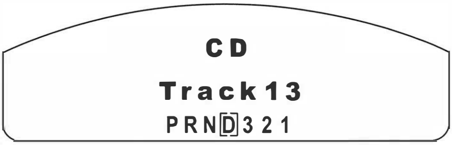
If the radio / CD is turned from OFF to ON while the ignition is ON, the display will show the main animated radio or CD screen (depending on the music source selected). After 2 seconds the display will revert to the trip computer screen with the radio / CD information on the left side of the display.

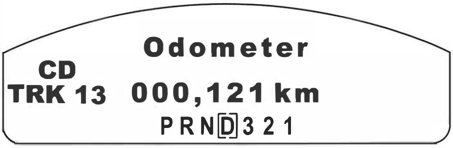




If the radio / CD is turned OFF, no radio / CD information is shown on the display.

On selection of a radio station, radio band, CD, CD track or function, the display will show the selection in the centre of the screen. After 2 seconds the display will revert to the trip computer screen with the radio / CD information on the left side of the display.

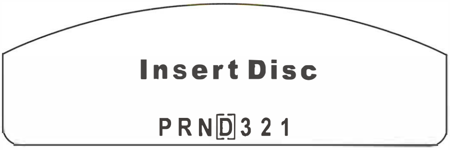


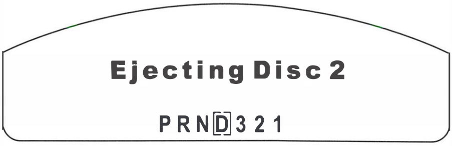


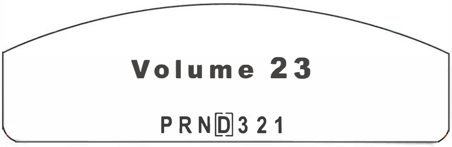
RADIO / CD, CLOCK cont.

If a CD changer is fitted, the display will provide message screens informing the driver when to insert or remove discs etc. It also informs the driver of current functions being performed by the unit such as 'Ejecting Disc 2' or 'Please Wait...'. The display remains until the action is completed or the driver presses the trip computer MODE button. The display reverts to the last trip computer display.

When changing the audio system settings such as Volume, Bass, Treble, Balance, Fader and Boost, the display will show the relevant information. Once the adjustment has been made, the display is shown for 2 seconds before reverting to the original trip computer display.







Clock – to adjust time

Time or radio frequency can be selected with the **TIME** button. When the time is displayed and the radio is on, the time can be set as follows:

- Press the **TIME** button for more than 2 seconds. The display will show 'TIME ADJ' (or 'SET TIME', depending on luxury level) and the time will flash.
- **To adjust the hours:** press the ⏮ **SEEK** ⏭ button.
- **To adjust the minutes:** press the ◀◀ **TUNE** ▶▶ button.
- Press the **TIME** button to save the new setting.

Note: The radio will automatically exit clock setting mode if no adjustments are made for 8 seconds.

Radio Personal Identification Number (PIN)

Your radio has an electronically coded security system. The system recognises the unique vehicle into which your radio has been installed. If the radio is kept in the vehicle (even if the battery or the radio has been removed and reinstalled) the PIN should not be required.

If for some reason the the electronic link between your vehicle and the radio is disrupted, the radio will prompt you for a 4-digit PIN code to be entered, use the radio station preset buttons to enter the PIN code (see 'Security Release Procedure' in the Audio System Handbook in the glovebox for more details).

The PIN is supplied on your Security Card (refer to page 2-2). As the PIN is the only means of enabling operation of the radio, we recommend the Security Card be placed in your wallet or personal card holder. **Do NOT leave it in the glovebox of your vehicle.** The PIN should also be written down and kept with other important documents.

If your Security Card is lost and the PIN is not recorded elsewhere, the PIN can be requested from your Holden Retailer, after supplying the proof of ownership and the Vehicle Identification Number shown on the inside front cover of this handbook. There may be a nominal charge for this service.

Note: For added security, a small red light on the radio blinks while the ignition is off.

REMOTE RADIO / CD CONTROLS (if fitted)

Remote controls for the radio / CD are provided by buttons located on the left side and right side of the steering wheel centre pad.

Left side

Pressing the MODE button alternates between different audio modes: radio FM1, radio FM2, radio AM and CD.

When the radio is playing:

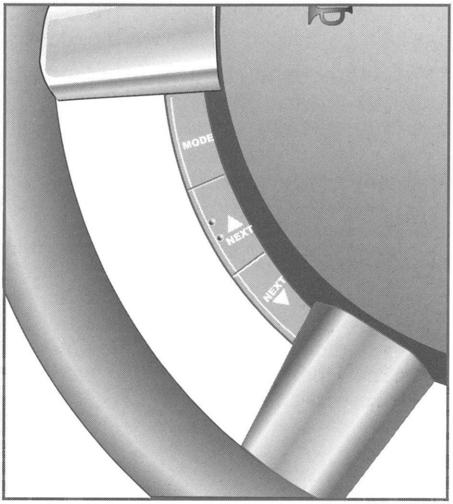
Favourite radio stations can be assigned a 'preset' number so that they can be quickly recalled (see radio supplement in glovebox).

When the radio is playing, pressing the NEXT ▲ button switches the radio up to the next preset station, i.e., radio station number 3 is playing; NEXT ▲ is pressed; radio station number 4 starts playing. Likewise, NEXT ▼ switches the radio down a preset station.

When a CD is playing:

Tapping the NEXT ▲ or ▼ buttons switches between CD tracks.

(CD Changer only) Pressing and holding the NEXT ▲ or ▼ button switches between the different CDs.

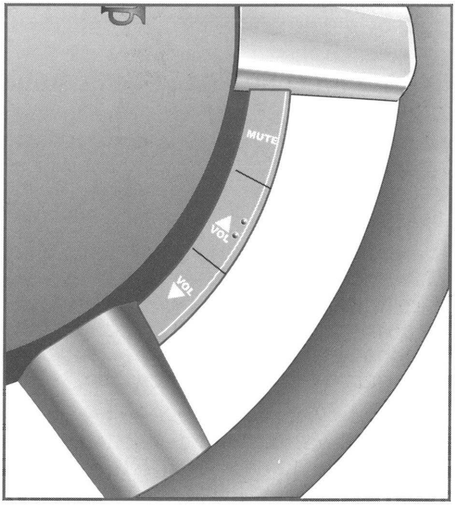


Right side

The VOL ▲ or ▼ buttons turn the volume up or down. Either hold down the button for as long as required, or tap the button, for small changes in volume.

The MUTE button switches the volume down or up by 20 decibels. Therefore, sound is only heard if the radio was very loud before muting.

In addition, pressing volume ▲ immediately *un*-MUTES the radio.



ANTENNA

The antenna shaft should be regularly cleaned with a soft cloth, water and a mild detergent. This not only helps the antenna to retract but also aids radio reception.

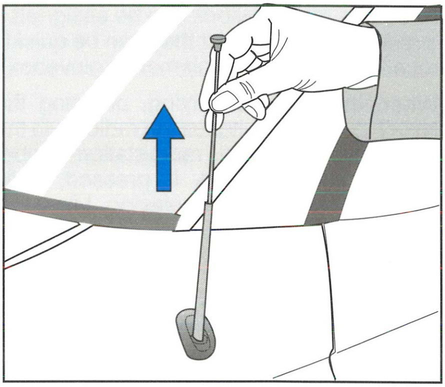
In addition to the normal external antenna, higher luxury levels have a 'diversity' antenna, which improves FM reception. The diversity antenna is incorporated in the rear window and can be noticed as lines in the glass, above the demister lines.

The best reception is always gained when the antenna is fully extended. However, to guard against breaking or bending the antenna, it may need to be retracted (for overhanging trees, car wash etc.). Different antennas are fitted to different luxury levels.

Manual antenna (if fitted)

Pull up or push down by hand.

If required, the antenna can be pushed fully down to the 'lock' position. To re-extend, insert the special key (provided in the glovebox) into the slots at the base of the antenna and pull up the top of the antenna, which can then be extended for maximum distance reception.



Electric antenna – full up / full down type (if fitted)

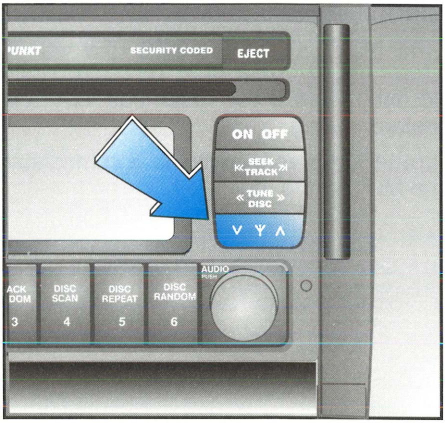
When the radio is switched ON the antenna extends to full height; when the radio is switched OFF or a CD is playing, the antenna fully retracts. Therefore, if you have need to retract the antenna (clearance for overhanging bushes etc.) while driving, turn off the radio by pressing the ON / OFF switch or play a CD until clear of the obstacle.

Electric antenna – height adjustable type (if fitted)

When the radio is switched ON the antenna will extend to the height setting used prior to switching the radio off. The height can be adjusted by pressing the switches in the radio, as shown.

Therefore, if you need to lower the antenna (clearance for overhanging bushes etc.) while driving, press the down arrow to lower the antenna. When clear of the obstacle the antenna should again be fully extended so as to gain the best radio reception.

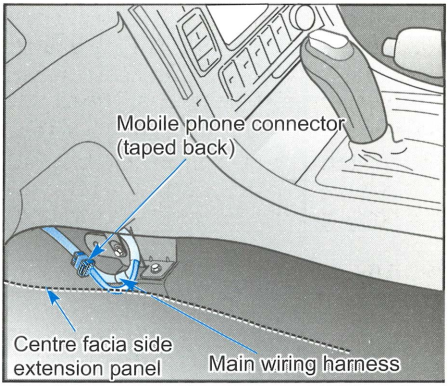
Personal Identity Keys on higher luxury levels: When the key is inserted in the ignition and turned to ON the system identifies the key and sets the antenna height to the last adjustment used for that key. Also refer to Chapter 2.



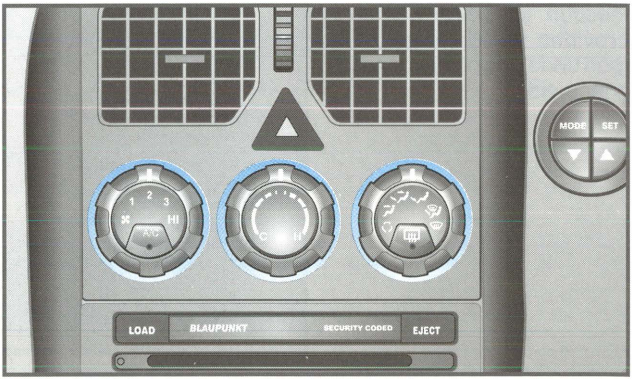
PHONE

Mobile phone connection

A power connection for fitting a mobile telephone is provided for all models. The connector is taped under the centre console, on the passenger's side.


Mobile phone connector
(taped back)
Centre facia side
extension panel
Main wiring harness

STANDARD HEATER, AIR COND. (if fitted)



Mode dial

RECIRCULATE. Interior air is recirculated and directed back through the face level vents. Refer operating notes on following page.

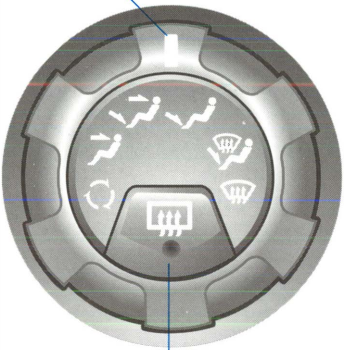
FACE. Air comes from the face level vents and the rear seat vents.

BI-LEVEL. Cooler air comes from the face vents and warmer air from the floor vents, provided the temperature lever is moved away from extreme cold or extreme hot. This position can be used for most winter driving.

FLOOR. Air comes from the floor vents.

FLOOR AND WINDSCREEN DEMIST (BLEND) Air comes from the floor and demist vents.

WINDSCREEN DEMIST. Air comes from the demist vents.



Rear window demist

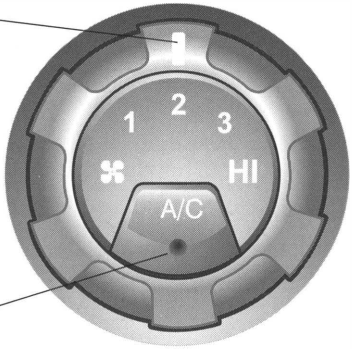
Press the rear window demister switch to turn the demister on. Press the switch again to turn the demister off. The light in the switch indicates when the demister is working.

To avoid unnecessary electrical consumption the demister automatically switches off after 15 minutes or if the ignition is switched off.

STANDARD HEATER, AIR COND. (if fitted) cont.

Fan dial

The fan dial provides speed control of the blower fan in all Mode dial positions.



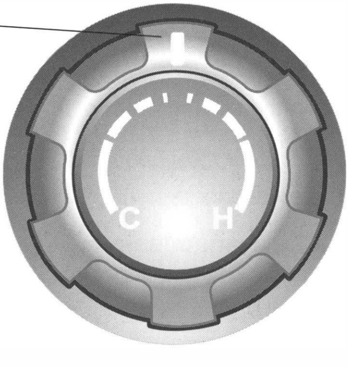
Air conditioning (if fitted)

The air conditioning is turned on when the A/C switch is pressed. Press the A/C switch again to turn the air conditioner off. The light in the switch indicates when the air conditioner is on.

- The fan must be set to 1 or above before the air conditioning will work.
- When the air conditioner is switched on and the Mode dial is turned to either Bi-level, Face or Recirculate, air is also delivered from the rear seat vents (sedan and wagon).
- The air conditioner operates more effectively when all the windows are closed.

Temperature dial

The temperature dial adjusts the temperature of the air entering the passenger compartment in all Mode dial positions.



STANDARD HEATER, AIR COND. NOTES

Unsealed roads

When following another vehicle on dusty roads, or to prevent exhaust fumes or odours entering your vehicle, select the recirculate position on the mode dial, make sure windows are closed and switch on air conditioning (if fitted).

When driving on un-sealed roads but where the dust is not airborne, use the face or bi-level setting of the Mode dial (with the windows closed) and the fan preferably on a high speed so that positive air pressure in the vehicle will prevent any dust entry.

Recirculate re-uses interior air and is therefore not recommended for long periods of time.

Air conditioning (if fitted)

Hot weather. For a 'quick cool down' when first entering the vehicle on a hot day, switch on the air conditioner, turn the Mode dial to recirculate, turn the temperature control dial to full cold and turn the fan to a high speed. Also, open the windows to allow the hot air to escape. After a minute or two, close the windows, as the air conditioning works more effectively with the windows up.

It is recommended selecting 'face' mode, which provides 'outside air', when the interior cools down (10 to 20 minutes) to achieve and maintain best comfort conditions during extended driving. The coolest temperature, is achieved when recirculate is selected. This can be used in slow city traffic or when the vehicle is stationary in very hot weather. Occasionally select face or bi-level to allow outside air to enter the vehicle.

Performance / fuel economy. The air conditioner uses power from the vehicle's engine. Therefore, you will notice a small decrease in engine power, and a slight increase in fuel consumption when the air conditioner is in use. When driving at high speeds the air conditioning compressor may switch off momentarily so that full engine power is available.

The system is protected by switches that guard against abnormal loads and loss of refrigerant. The compressor may switch off permanently. Have the system checked by a vehicle Retailer if this occurs.

Note: It is important that once every two weeks, with the engine running, to switch the air conditioner on for 5 to 10 minutes (even in Winter) to lubricate the air conditioner system seals.

Hissing. Occasionally a slight hissing sound may be heard for a short time when the air conditioner switches off and pressure in the system equalises. This is normal.

Demisting

If the side windows or windscreen fog up on a cold day, switch on the air conditioner, turn the fan switch to a high speed, turn the Mode dial to demister and floor (blend) position and select a warm setting with the temperature control dial. This circulates warm, dehumidified air throughout the vehicle, defogging the windows.

The air conditioner not only reduces temperature but also reduces humidity and dust.

Automatic transmission (if fitted)

If your vehicle is stopped for long periods in hot weather with the engine running and the air conditioner operating, select N or P with the transmission T-bar.

Cigarette smoke

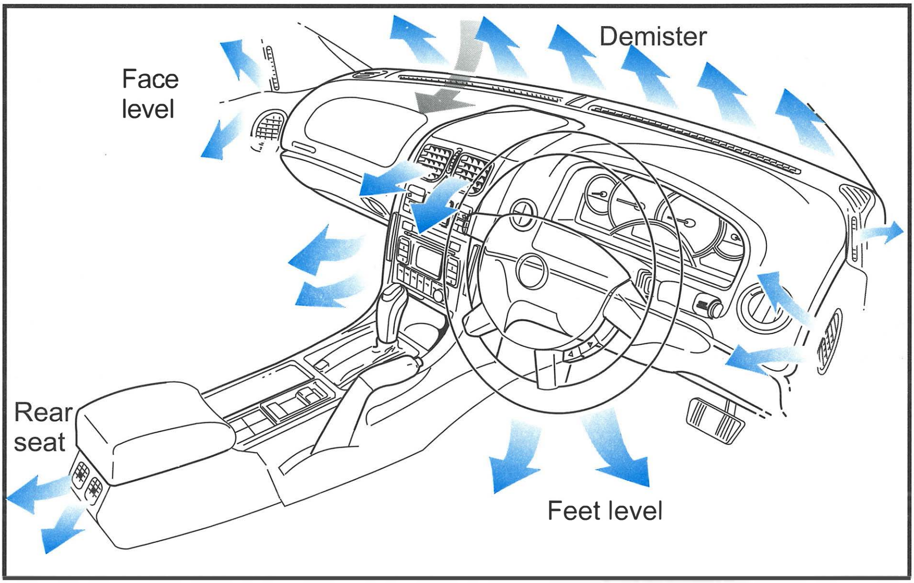
If occupants are smoking, it is recommended that the 'recirculate' position NOT be used.

VENTILATION SYSTEM

The vehicle features a flow-through ventilation system for your comfort. Under reasonable conditions, it should not be necessary to open the windows at any time. Outside air (except when recirculate is selected) is drawn into the vehicle through the opening between the bonnet and the windscreen. Do not allow this grille to become clogged with debris, such as leaves or snow. Any leaves should be removed each time you wash your vehicle (recommended weekly).

Vents

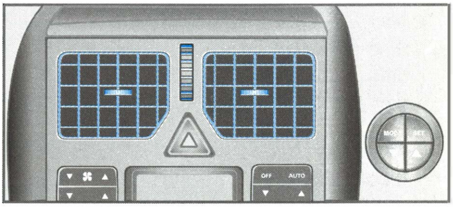
The air may be directed to different types of vents.



The face and rear seat vents (sedan and wagon) have adjustable vanes which may be swivelled up / down and left / right to allow directional control of air flow.

These vents have shut off doors which can also be used to adjust the air volume to suit individual comfort. For example, air flow at the centre vents can be reduced to enhance air flow at the side vents (utility) or rear seat vents (sedan and wagon).

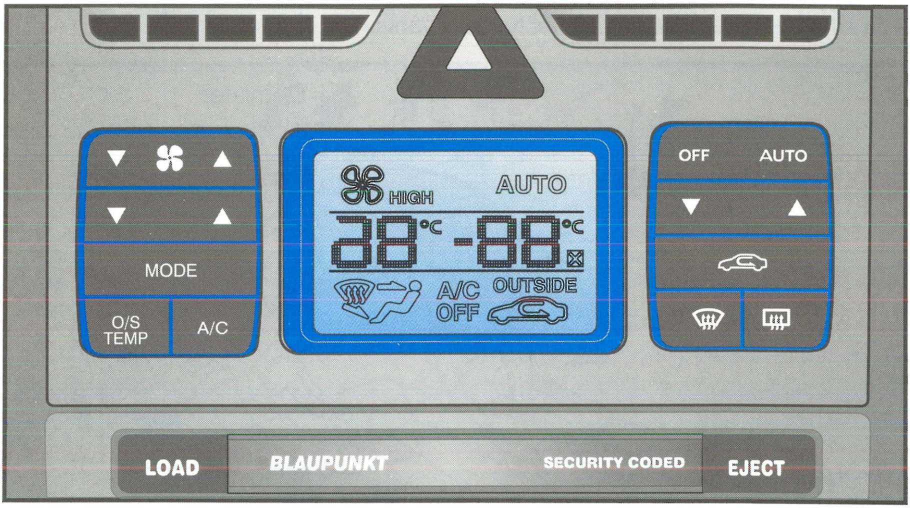
The feet level and demister vents are fixed, as these direct air to the windscreen, feet and side windows in the best possible way.



CLIMATE CONTROL (if fitted)

The Climate Control panel is located in the centre of the dashboard. It is designed to maintain the interior of your vehicle at your desired temperature.

There are two types of Climate Control panels: single zone and dual zone. The only difference being that the dual zone type (provided on higher luxury level vehicles) allows provision for the right and left sides of the vehicle to be maintained at different temperatures.



Automatic operation

- Start the engine.
- Press the AUTO button if the AUTO icon is not already displayed.
- Use the red (warmer) or blue (cooler) arrows to adjust the temperature read-out. Try an initial setting between 22°C and 24°C.

  With dual zone types use the left set of arrows to select the temperature required for the passenger and the right set of arrows to select the temperature for the driver.
- Allow the system to stabilise for a few minutes.
- You may need to adjust the angle of the air vents to your personal requirements perhaps with the air vents pointing directly at your body or face for initial cooling, and then pointed away for a more general effect, once you have cooled down.
- The setting does not change between the ignition being turned OFF or ON (except if extreme hot or cold is selected). Therefore, you need only change the setting when you wish to alter your comfort level.

CLIMATE CONTROL (if fitted) cont.

Dual zone type (if fitted)

'Dual zone' (provided on higher luxury level vehicles) allows for the right and left sides of the vehicle to be maintained at different temperatures.

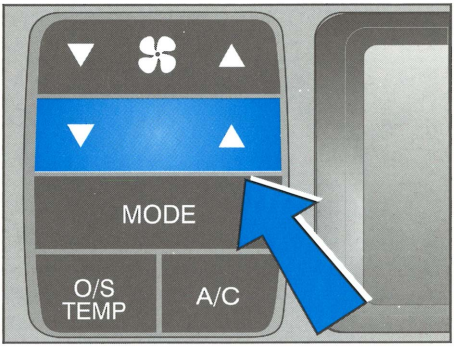
The left and right sides can be set to different temperatures or can be *linked* to operate identically, i.e., the passenger's side will mirror whatever the driver's side is changed to.

To link:

- Press and hold the AUTO button for at least 2 seconds. Both displays blink to indicate linking has happened.
- Linking automatically happens if the passenger's and driver's sides are set to the same temperature when the ignition is turned ON.

To unlink:

- Press either of the *passenger's* temperature switches.

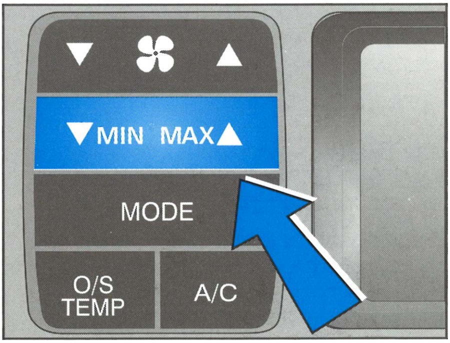


Single zone type (if fitted)

'Single zone' maintains the interior of the vehicle at the one selected temperature.

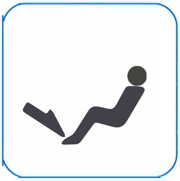
On single zone types, pressing the ▼MIN button moves the temperature to the coldest end of the scale (17°C). The display will show a 'C' for cold. Subsequently pressing of the ▼MIN button moves the temperature back to where it was.

Pressing MAX▲ moves the temperature to the hottest end of the scale (30°C). The display will show a 'H' for hot. Subsequently pressing of the MAX▲ button moves the temperature back to where it was.



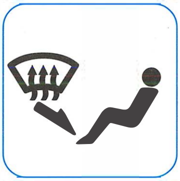
Note: The system must be ON (display showing) to make any adjustments.

CLIMATE CONTROL (if fitted) cont.



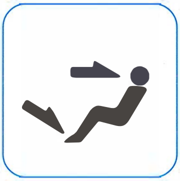
FLOOR

Air is directed to the floor vents.



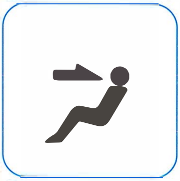
DEMIST AND FLOOR (BLEND)

Air is directed to the floor and windscreen demist outlets.



BI-LEVEL

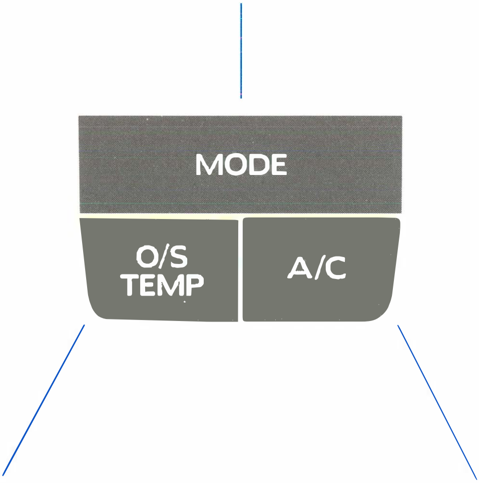
Cooler air is directed to the face and rear vents and warmer air is directed to the front floor vents.



FACE

Air is directed to the face and rear vents.

MODE Tap this button to switch between floor, front demist and floor, bi-level and face modes.



O/S TEMP Tap this button to alternate the display between temperature outside the vehicle and normal display.

Pressing other buttons to adjust the climate control will also change the display from showing O/S temp to showing the normal display.

Pressing O/S TEMP does not take the system out of automatic mode.

A/C Switches air conditioning between OFF and ON.

To conserve fuel, you may wish to switch off the air conditioning in cold weather. The climate control maintains automatic control of all other functions but does not turn on the air conditioning, even if cabin temperature gets too high.

When 'A/C' is switched on, the air conditioning operates as required, removing moisture and heat from the air.

Air conditioning should be switched on for at least 5 to 10 minutes once every 2 weeks to lubricate the A/C seals.

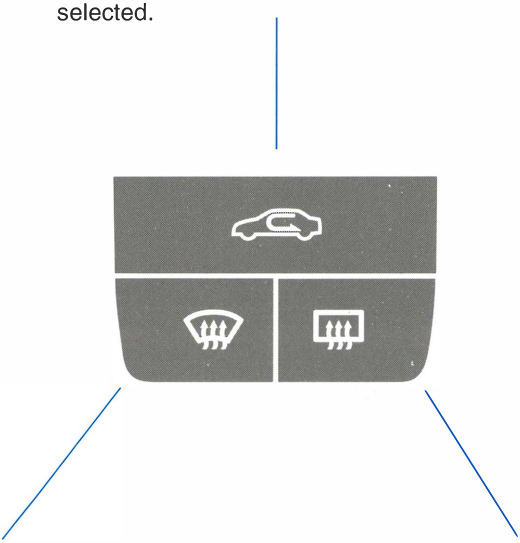
CLIMATE CONTROL (if fitted) cont.

RECIRCULATION Switches air intake to recirculated air. **Recirculate re-uses interior air and is therefore not recommended for long periods of time**.

Recirculate position should NOT be used if occupants are smoking.

Recirculation automatically switches off after 40 minutes, or it can be manually turned off by pressing the switch again.

The recirculation symbol is shown on the LCD display when recirculation is selected.



WINDSCREEN DEMIST Climate control cannot determine demist requirements. Therefore, tap this button for demisting the windscreen and side windows. The system changes the outlets to demist and switches on the air conditioning.

The light in the switch glows and the windscreen demist icon is shown on the LCD display when demist is selected.

Press the switch again to switch OFF.

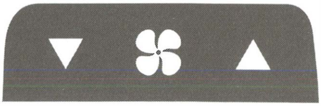
REAR WINDOW DEMIST Press the rear window demister switch to turn the demister on. Press the switch again to turn the demister off.

The light in the switch glows when demist is selected.

To avoid unnecessary electrical consumption, the demister switches off automatically.

CLIMATE CONTROL (if fitted) cont.

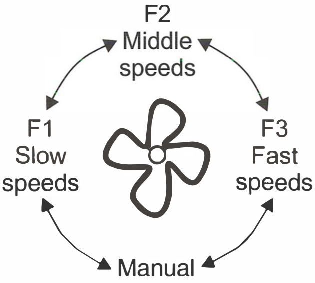
FAN Press ▲ or ▼ on the fan switch to increase or decrease the fan speed.



Five manual fan speeds are available. When the fan has been adjusted manually the fan blades will fill according to the fan speed, for speeds 1 to 4. The HIGH icon appears next to the fan graphic on speed setting 5.

When the AUTO button is pressed all functions, including the fan speed, go into auto mode. When the fan is operating automatically, the graphics of the fan blades are clear.

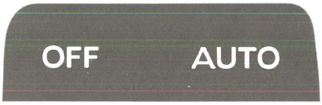
In auto mode, three sets of fan speeds are available for individual preference. When AUTO is first selected, the fan will use the middle set of fan speeds (F2). Press the fan ▲ or ▼ buttons to change to the faster (F3) or slower (F1) set of fan speeds. Note: The F1, F2 or F3 icons appear briefly below the fan graphic when the button is pushed, representing the fan speed range selected.



If the Manual position is selected the fan will go out of auto mode and back to manual mode.

When the engine is not running the fan speed is limited to conserve the battery.

OFF Switches the system OFF and ON.



AUTO Pressing this button switches the system to full automatic control (the AUTO icon is shown on the LCD display).

Manual override of any controls can impede the system maintaining the set temperature. It is designed to operate with a minimum of manual adjustment. The AUTO icon on the display goes out when *not* in full auto mode.

Allow the system to stabilise before changing comfort settings.

CLIMATE CONTROL NOTES

Ignition keys

Vehicles fitted with 'priority key locking' systems (refer to Chapter 2 'Locks') have the ability to remember individual adjustments for different keys.

When the key is inserted in the ignition and turned to ON, the system identifies the key and sets the climate control to the last adjustments used for that key.

Adjusting the temperature

When the system has stabilised, and you wish to adjust the setting, it is recommended that the adjustment be made one tap at a time (each tap is 1°C) until you are comfortable. Your comfort setting depends on clothing, your acclimatisation, and the angle at which you have directed the vents.

The system can be set anywhere between 17°C (coolest) and 30°C (warmest). Pressing the red arrow when 30°C is already showing causes the display to show 'H' (hottest); pressing the blue arrow when 17°C is already showing causes the display to show 'C' (coolest).

What the system does

In automatic operation the system always responds quickly to cooling / heating requirements. It is not necessary to set a cooler / hotter temperature than required to ensure fast cooling / heating.

The system should be left on automatic operation, as it can then:

- turn air conditioning on and off,
- vary the temperature of the air entering the cabin,
- recirculate interior air or take air in from outside the vehicle,
- vary fan speed,
- select the vents through which the air is delivered.

For example, on a cold morning, air may be directed to the windscreen, then as the engine warms up warm air is directed to the foot vents, then later still the system changes to bi-level, the fan slows down and changes to face and foot vents.

You may need to manually adjust the angle of the vents at various times, for instance to direct cool air onto your body on hot days, or past your body when the temperature is mild.

Quick cool down

To aid the climate control when first entering the vehicle on a hot day, open the windows to allow the hot air to escape. After a minute or two, close the windows to allow the system to work more effectively.

Engine idling

If your vehicle is stopped for long periods in hot weather with the engine running and the air conditioner operating, select N (neutral) or P (park).

CLIMATE CONTROL NOTES (if fitted) cont.

Unsealed roads (prevention of dust entry)

When following another vehicle on unsealed roads (and the dust is airborne), it is recommended that recirculation be selected. However, if the dust is not airborne it is recommended that the setting be on outside air (recirculation off) and that the fan be on a high speed. This builds up positive air pressure to prevent dust entry. Ensure in both cases that all windows are closed.

Something wrong?

This symbol shows on the display when there is a fault in the system. You should see your Holden Retailer, who has the necessary equipment to diagnose the system.

X

Sensors

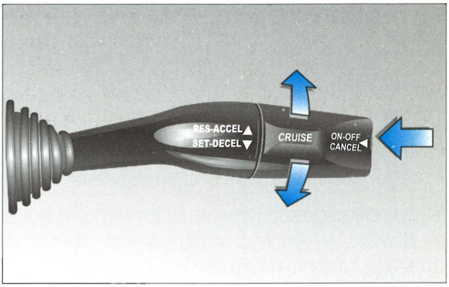
The climate control uses different sensors to maintain your desired temperature.

One sensor, the sunlight sensor, is fixed to the top of the dashboard and can be seen as a small rectangle in the centre. It is therefore important that the sensor is not covered or that there are no metal objects close by, as this may block the input. Occasionally the sensor should be cleaned.

Another sensor, the outside temperature sensor, is located under the front of the vehicle and relies on air moving across the sensor. You may notice a difference between the temperature shown on your climate control display and the temperature shown on roadside temperature displays. This is due to the vehicle's sensor being closer to the road, which radiates heat.

Another sensor is the in-car sensor, which is located in the dashboard (refer page 1-3) and measures the temperature inside the vehicle. It is important not to cover the sensor with stickers.

CRUISE CONTROL (if fitted)



The cruise control maintains your vehicle's speed without you having your foot on the accelerator pedal.

The cruise control lever is on the right side of the steering column.

The ON-OFF / CANCEL switch is at the end of the lever and is activated by pushing in towards the direction of the steering column.

The outer half of the lever rotates up to the RES-ACCEL position or down to the SET-DECEL position.

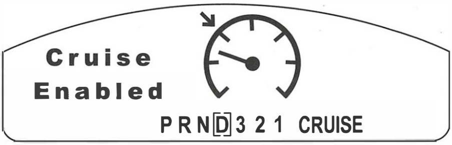
The SET-DECEL position is used to set initial speed and to decrease speed.

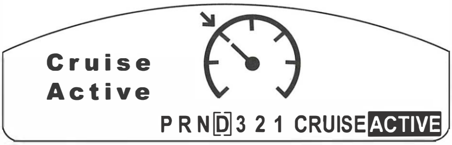
The RESUME-ACC position is used to resume 'memory' speed and to increase speed. It can also be used to set initial speed.

TO SET INITIAL SPEED:

1. Turn on the ignition.
2. Press the ON-OFF / CANCEL switch. The 'Cruise Enabled' animated symbol and small CRUISE icon are displayed on the instrument panel. After 2 seconds the display reverts to the CRUISE icon indicating that the power is on.
3. Press the accelerator pedal until travelling at your desired speed (must be above 40 km/h) and then rotate the lever down, to the SET-DECEL position.

   The 'Cruise Active' animated symbol and CRUISE ACTIVE icon are now displayed on the instrument panel. You may now release both the accelerator pedal and the lever, as the cruise control is now maintaining the speed.
4. After 2 seconds the display reverts to the CRUISE ACTIVE icon indicating that the cruise control is now engaged.





CRUISE CONTROL (if fitted) cont.

TO ADJUST YOUR SET SPEED you may either:

- Rotate the lever down to the SET-DECEL position until the vehicle slows down to the desired speed, then release.

  or

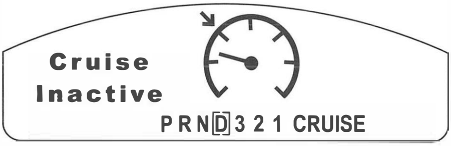
- Rotate the lever up to the RES-ACCEL position until the vehicle accelerates up to the desired speed, then release.

Minor changes in speed (2 km/h) can be achieved by *momentarily* rotating the lever; up or down. When reducing speed, remember that the cruise control is not designed to operate under 40 km/h.

TO PAUSE THE CRUISE CONTROL:

Press the brake pedal or press the clutch pedal (if the vehicle has a manual transmission) or press the ON-OFF / CANCEL switch *once*.

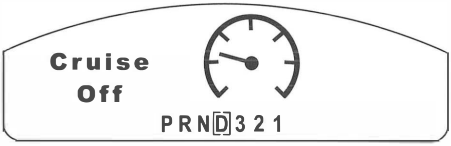
This deactivates the cruise control, the 'Cruise Inactive' animated symbol is displayed and ACTIVE icon turns off, but cruise control retains the speed in its memory. To regain the memory speed you have only to momentarily rotate the lever to the RES-ACCEL position, provided you are travelling over 40 km/h. Holding the lever in the RES-ACCEL position for longer than 1 second causes the vehicle to accelerate.



TO TURN THE CRUISE CONTROL COMPLETELY OFF:

Press the ON-OFF / CANCEL switch *twice*.

The 'Cruise Off' animated symbol is displayed and CRUISE icon turns off.



Pressing the ON-OFF / CANCEL switch *once* pauses the cruise control but keeps the system ready and the speed in memory.

A *second* press turns the system off completely and wipes the speed memory clear.

A *third* press turns the system back on to ready, without any speed memory.

In addition, turning off the ignition completely turns off cruise control and wipes the speed memory clear.

CRUISE CONTROL (if fitted) cont.

WARNING:

- Do not use the cruise control when road or driving conditions require varying speeds. A constant speed isn't practical in heavy or varying traffic, or on winding, slippery or rough roads.
- Remember that when both the 'CRUISE' and the 'ACTIVE' symbols are showing the cruise control is maintaining your speed. Taking your foot off the accelerator pedal will not reduce speed. To deactivate the cruise control you must either press the brake pedal, press the clutch pedal (if the vehicle has a manual transmission) or push the ON-OFF / CANCEL switch.
- The cruise control will not apply the vehicle's brakes. Therefore, the vehicle may gain speed when going down steep hills.
- When climbing steep hills (particularly when towing) it is possible for the vehicle to lose speed. You may need to switch off the cruise control and use the accelerator pedal.
- The cruise control will be cancelled if the traction control system becomes active, indicated by the 'Low Traction' animated warning on the instrument panel display.

AUTOMATIC TRANSMISSION: If cruise control is maintaining vehicle speed the transmission overrides POWER / NORMAL selection and operates in CRUISE mode, providing optimum driveability. CRUISE mode is neither a POWER or NORMAL pattern and the PWR symbol switches off when cruise control is maintaining vehicle speed.

REVERSE PARKING AID (if fitted)

Reverse Parking Aid (if fitted)

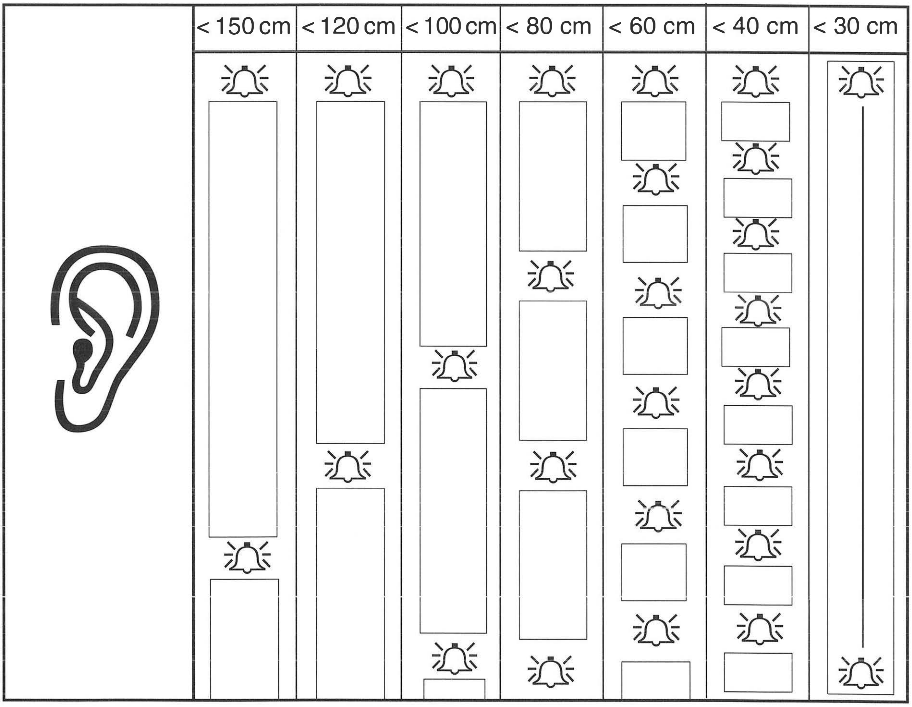
Reverse Parking Aid (RPA) is designed to help the driver reverse the vehicle by indicating (with varying tones) the distance to the nearest obstacle behind the vehicle.

The RPA starts automatically when the ignition is on and reverse gear is selected. A short single tone from the speaker indicates that the RPA is operational.

An obstacle is indicated when it is approximately 150 cm from the rear bumper. As the distance to the obstacle reduces, the repetition rate of the warning tone increases. The tone will become faster and faster until it becomes a continuous tone at a distance of less than 30 cm.

Hint: *To assist in hearing the RPA warning tones while reversing, mute the radio / CD temporarily by pushing the MUTE button on the right side of the steering wheel.*

Note: While reversing sometimes a short tone may be heard when there are no objects or obstacles visible to the driver. This can be due to such things as ground reflections, playing children or animals. In such cases be especially careful.



REVERSE PARKING AID (if fitted) cont.

Tow bar: When a tow bar is fitted to the vehicle, the RPA requires adjustment to allow for the protrusion of the tow bar. Your Holden Retailer will automatically adjust the RPA when fitting the tow bar. If the RPA should require tow bar adjustment by the owner due to the removal or installation of a tow bar, proceed as follows:

- Ensure that the ignition is turned OFF.
- Open the boot and pull back the top of the right-hand rear compartment trim.
- Locate the white RPA harness connector closest to the boot lid hinge:

  Tow bar fitted – disconnect the white harness connector.

  Tow bar removed – connect the white harness connector.
- Install the right-hand rear compartment trim and close the boot.

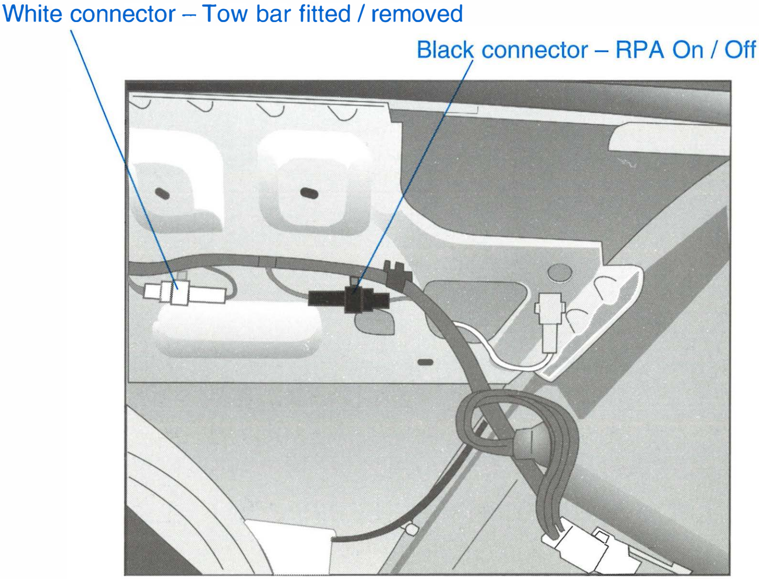
Auto Off: The RPA is automatically turned off when a trailer or caravan wiring is connected to the vehicle.

Disabling the RPA: On some occasions you may wish to turn the RPA off to prevent hearing constant warning tones while reversing, such as when a bicycle rack is fitted to the tow bar (a bicycle may be recognised as a close object by the RPA). To turn the RPA on / off, proceed as follows:

- Ensure that the ignition is turned OFF.
- Open the boot and pull back the top of the right-hand boot compartment trim.
- Locate the black harness connector mid way along the RPA harness.

  RPA off – disconnect the black harness connector.

  RPA on – connect the black harness connector.
- Install the right-hand rear compartment trim and close the boot.


White connector – Tow bar fitted / removed
Black connector – RPA On / Off

REVERSE PARKING AID (if fitted) cont.

Errors: Errors are indicated to the driver as follows:

- Deep continuous warning tone while reversing – acoustic error (eg. caused by excessive water or dirt on the parking sensors).
- No tones or a deep continuous warning tone after engaging reverse gear – system defective (contact your local Holden Retailer).

Safety Instructions

When reversing the vehicle, the driver must still drive in such a way as to avoid all risks to others on the road. The RPA is an additional help and does not release the driver from special obligations of care when reversing the vehicle.

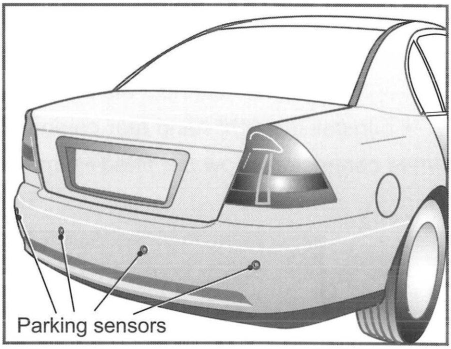
The legal responsibility for recognising and assessing obstacles remains in the hands of the driver, despite the use of the RPA.

A prompt warning is only possible if the driver reverses the vehicle slowly.

Obstacles with sharp edges, smooth surfaces, pointed or round objects (for example loading ramps) may not be recognised or recognised properly in certain circumstances as a result of their physical reflection properties.

The driver is responsible for collision damage caused by unclear signals (error indicator, refer to 'Errors' above), ignoring the warning tone, driver error or incorrect signals as a result of physical conditions.

The RPA uses sensors in the rear bumper. It is the responsibility of the driver to ensure that snow, ice or sharp objects are removed from the sensors before driving away in the vehicle to prevent any impairment to the RPA's function. To avoid damaging the sensors, do not use hard or sharp objects to clean the sensors.



NAVIGATION SYSTEM (if fitted)

Navigation System (if fitted)

Detailed information on the operation of the in-car navigation (Nav) system is provided by the supplement in the glovebox.

Note: If a vehicle fitted with a Nav system is towed, the antenna will need to redefine the position of the vehicle, as only the previous location prior to towing is stored in the memory. This may take a few minutes to do (while the vehicle is being driven) and it will appear that the system is not functioning correctly during the update process.

CHAPTER 2

Locks

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2-3 Personal identity keys (if fitted)
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2-7 Alarm (if fitted)
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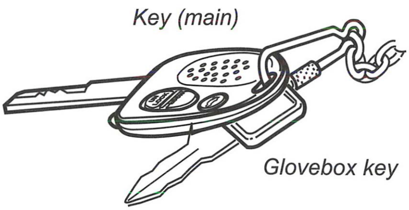
2-10 Child safety rear door locks
2-10 Free turning door locks
2-11 Boot lock – sedan
2-12 Tailgate lock – wagon
2-13 Tailgate lock – utility
2-14 Bonnet lock

KEYS

Key (main)

This key operates all locks and ignition, except for the glovebox.

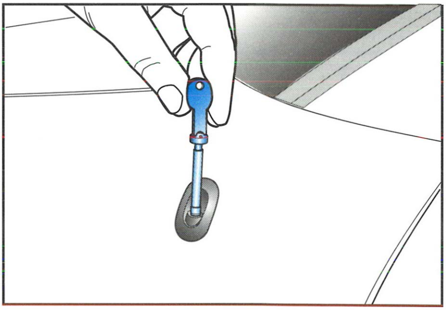


Glovebox key

The glovebox key locks and unlocks the glovebox. This key can usually be kept in the unlocked glovebox. Then, when leaving your vehicle and master key with a car park attendant you can lock valuables in the glovebox, and take the glovebox key with you.

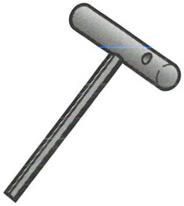
Manual antenna key (for vehicles without electric antennas)

To guard against breakage, the manual antenna can be pushed fully down. To extend the antenna again, insert the antenna key in the antenna slots and pull the antenna up.



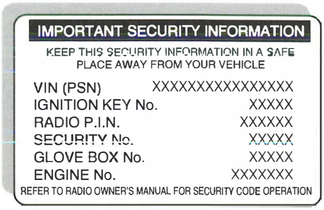
Roof rack key (wagon)

If your wagon has a roof rack, a key is provided to adjust the crossbars and tie-down anchors. The key is originally placed inside the glovebox of your new vehicle. Refer to Chapter 10 for information about roof racks and adjustment of the crossbars.



Key numbers – security card

The security card lists various security numbers for your vehicle, including key numbers, and the radio PIN. Please keep the card in a safe place, away from your vehicle. If a key is lost, a replacement can be ordered through any Holden Retailer by quoting the key code number, security number and providing proof of ownership.



IMPORTANT SECURITY INFORMATION

KEEP THIS SECURITY INFORMATION IN A SAFE
PLACE AWAY FROM YOUR VEHICLE

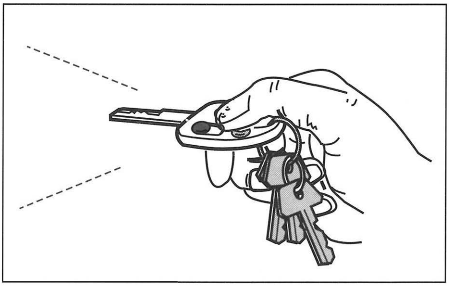
VIN (PSN)	XXXXXXXXXXXXXXXXX
IGNITION KEY No.	XXXXX
RADIO P.I.N.	XXXXXX
SECURITY No.	XXXXX
GLOVE BOX No.	XXXXX
ENGINE No.	XXXXXXX

REFER TO RADIO OWNER'S MANUAL FOR SECURITY CODE OPERATION

KEYS cont.

Pressing buttons

When pressing the key buttons ensure that other keys on the key ring are not between the main key and the vehicle. Other keys can obscure the signal being transmitted to the vehicle. Also refer to Notes about the keys on page 2-6.



Personal identity keys (if fitted)

This system provides two different memories of electronic settings, for different keys. For instance, one driver may have a preferred radio station. Pressing the UNLOCK button on their key will automatically customise the radio for that driver. However, the other driver may prefer a different station. Pressing *their* UNLOCK key button will tune the radio to *their* station.

The features remembered by each key are (if fitted):

- antenna height,
- instrument dimmer level,
- climate control settings,
- automatic transmission power / normal mode selection,
- radio settings,
- trip computer settings,
- time delay for automatic lights off, and
- all other features personalised in Customisation Mode, see Chapter 1.

Features revert to the last setting used for each key.

Note about additional keys: Only two different memories are available, memory one and memory two. If a third key is made, the third key becomes memory one and the other two keys become identical memory twos.

If the vehicle battery has been disconnected, some settings may be forgotten. Your adjustments will be remembered the next time you adjust the feature.

DOOR LOCKS

Lock

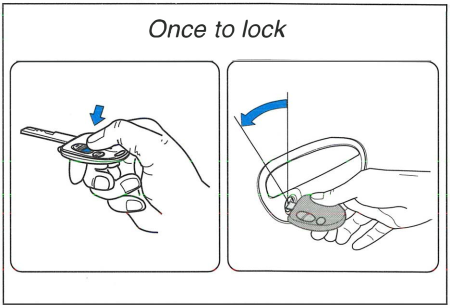
Doors are locked when the lock knob is down.

Automatic vehicles – have an 'Auto lock in drive' feature which locks the doors automatically when the transmission selector is shifted out of *Park*. This feature can be selected from the instrument panel Customisation Mode (Refer to CUSTOMISATION MODE in Chapter 1).

Manual vehicles – for safety reasons, the vehicle cannot be locked using the remote key if the key is in the ignition or if the driver's door is open.

PREFERRED METHOD: Press the LOCK button on the key within 4 metres of the vehicle to lock all doors (and wagon tailgate) and set the alarm (if fitted). The vehicle's turn signals will briefly flash once when the signal has been received.

Note: The door lock indication can be selected between the turn signals flashing or the turn signals flashing accompanied by the sounding of the horn, refer to CUSTOMISATION MODE in Chapter 1.


Once to lock

ALTERNATIVE METHOD: Insert the key in the driver's door lock and turn towards the rear of the vehicle, then turn it back to the vertical position and remove.

Note: The Alarm is not set using this method.

IF STAYING IN THE VEHICLE: Press the door lock knobs down.

Note: Pushing down either front door lock locks all doors at the same time.

Deadlock

For further protection when leaving the vehicle, you can *deadlock* the doors. Deadlocking electronically jams all the electric locks so that no door can be opened, even if entry is gained by breaking glass.

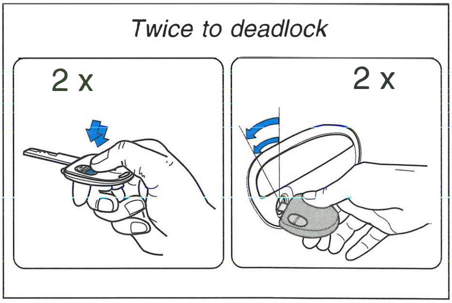
WARNING:

Do not use deadlock if there are people in the vehicle. The doors cannot be unlocked from inside.

To set deadlock

PREFERRED METHOD: Press the LOCK button twice in succession. That is, press the LOCK button once to lock the vehicle, then press it again (within 10 seconds) to set the deadlock. The vehicle's turn signals will give a long flash of approximately 3 seconds (and the horn chirps, if selected).

ALTERNATIVE METHOD: Insert the key in the driver door lock and turn the key ***twice*** towards the rear of the vehicle. That is, once to lock the doors, then a second time to set the deadlock.


Twice to deadlock

DOOR LOCKS cont.

To unset deadlock

Press UNLOCK on the key (within 4 metres of the vehicle). This will unlock the doors. Therefore, undeadlocking happens naturally, when unlocking the doors.

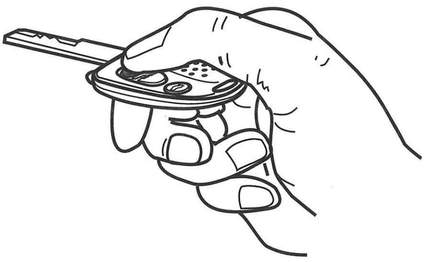
Unlock

Press the UNLOCK button on the key within 4 metres of the vehicle. The turn signals flash twice (and two horn chirps, if selected) and the interior light is turned on for a short time.

If UNLOCK is pressed once, the driver's door (and wagon tailgate) will unlock. The other doors will *undeadlock* but will remain locked. If UNLOCK is pressed a second time, or is held down for more than half a second, all the doors will unlock.

If you prefer to have all doors unlock with a single press, the above two stage unlock feature can be changed to all unlock from the instrument panel Customisation Mode (Refer to CUSTOMISATION MODE in Chapter 1).

Press UNLOCK once to unlock driver's door; twice to unlock all doors.



If the key is turned towards the front of the vehicle in the door lock cylinder to unlock the vehicle, the doors will unlock but the alarm (if fitted) will be set off as soon as a door is opened.

Turn signals

If unsure whether the vehicle is locked or deadlocked, press the LOCK button on the key. If the vehicle is already deadlocked the lights will give a long flash; if the vehicle is locked, the lights will give a short flash, but will not set deadlocking. If the LOCK button is pressed twice within 10 seconds, the lights will give a long flash to indicate that deadlocking has occurred.

If locking has not worked

- If the lock system is overloaded as a result of repeated operation in a short time interval, the power supply is cut off for approximately 30 seconds.
- Vehicles fitted with alarms: The door lock system has been designed to make the vehicle horn chirps rapidly five times if it detects a fault in the lock system when the LOCK button is pressed. You should check to see that the doors have locked.
- Vehicles without alarms: The door lock system has been designed to flash the turn signals when the vehicle is locked with the LOCK button. If this does not happen it indicates a fault and you should check to see that the doors are locked.

DOOR LOCKS cont.

How the door lock knobs work

- Pulling up any door lock knob unlocks all doors.
- Pushing down either of the front door lock knobs locks all doors; pushing down either of the rear door lock knobs locks (sedans and wagons) only *that door.*
- Either rear door (sedans and wagons) may be locked behind you by pressing the lock knob when the door is open, then shutting the door firmly. It is not necessary to hold the handle up when shutting. However, the lock knob of front doors cannot be pressed when either door is open.

Notes about the keys

- The key has a lithium battery inside the key head, which should last more than 5 years with normal use. A weakening battery is indicated by a progressive *loss of range*, which means you must be closer to the vehicle when pressing the key. Originally the key should have a range of 4 metres. The battery inside the key is ***not*** re-chargeable. A flat key battery requires replacement of the key head.
- Tinting the vehicle windows reduces the range of the key if the tinting material has a metallic film.
- When a button on the key is pressed it sends a signal to the vehicle. The receiver of the signal can be seen as a small rectangle on top of the dashboard, in the centre. The receiver is also used to measure sunlight. It is therefore vital that the receiver is clean, not covered and that there are no metal objects close by, as this may block the signals.
- The LOCK button on the key will not work if the ignition is switched on or if the driver's door is open. The 🚗 button (if fitted) on the key will not work if you are travelling over 20 km per hour.
- The key buttons may not work if parked near high radio activity, such as under TV towers (most likely in high lookout car parks).

  The key buttons will not work if the battery inside the key is flat. Try turning the key in the ignition to ON, then OFF again and remove. Try pressing LOCK on the key again. If it still does not work a replacement key may be needed from your Holden Retailer.

  If, for any reason, pressing the key buttons will not work, the doors can still be locked and unlocked by turning the key in the driver's door lock.

  - Turn the key towards the rear of the vehicle (once) to lock all doors.
  - Turn the key towards the rear of the vehicle a second time to set the deadlock.
  - Turn the key towards the front of the vehicle to unlock and unset the deadlock. If the vehicle is fitted with an alarm system, opening the door may cause the alarm to trigger. If this happens turn the key in the ignition to ON to shut off the alarm.
- If the battery in the vehicle is so flat that there is not enough power to unlock doors when the UNLOCK button on the key is pressed the driver's door can still be unlocked by forcefully turning the key towards the front of the vehicle in the door lock. The snib button does not pop up but pulling the handle will still open the door.

ALARM (if fitted)

Switching on and off

The alarm system is turned on when the LOCK button on the key is pressed, and turned off when UNLOCK is pressed. Therefore, locking the doors by pressing LOCK not only locks all the doors but (after a short delay) also sets the alarm system.

When set off

The alarm is triggered when any of the doors, bonnet or boot (sedan) / tailgate (wagon) are opened or a *hot-wire* attempted... an alarm sounds and the turn signals and dome light flashes.

To turn it off:

- press UNLOCK on the key

  or

- turn the ignition to ON

  or

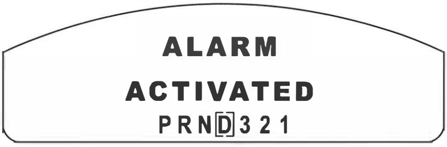
- allow the alarm to time out and reset itself, to guard against further break-in attempts.

Break-in

The exterior turn signals should flash *twice* when returning to your vehicle and pressing UNLOCK on the key.

If they flash *three* times an attempted break in has occurred whilst the vehicle was armed.

If you wish to find out what set the alarm off, turn the ignition on and look at the instrument panel centre display for the 'ALARM ACTIVATED' message being shown. The 'ALARM ACTIVATED' screen is displayed first for 1 second, followed by the trigger point screens. The trigger point screens are also displayed for 1 second. If more than one trigger point has been activated the display will show each trigger point screen in sequence for 1 second, returning back to the 'ALARM ACTIVATED' screen.



ALARM
ACTIVATED

The alarm screens are shown in a continuous cycle until the trip computer switch MODE button is pressed. The centre display then reverts to the last screen shown prior to ignition off. The range of possible trigger point screens, depending upon the model, are:

- *by Bonnet* – the bonnet has been opened.
- *by Boot* – the boot (sedan) or tailgate (wagon) has been opened.
- *by Passenger doors* – one of the passenger doors, either front or rear, has been opened.
- *by Driver's door* – the driver's door has been opened.
- *by Hot Wire* – hot wiring of the vehicle was attempted (ignition on without key inserted).

ALARM (if fitted) cont.

Notes

- Remember, the alarm system is turned off and on when the UNLOCK and LOCK buttons on the key are pressed. When the alarm system is switched ON, turning the key in the lock and then opening the doors or tailgate triggers the alarm. The alarm system thinks a break-in has occurred.

  When the alarm system is turned on, you may open the boot (sedan) by pressing the 🚗 button on the key. This does not set off the alarm, but leaves the alarm system on and undisturbed.

  Closing the boot re-arms the boot alarm after a short delay.

- The LOCK button on the key will not function when the ignition is turned ON or the driver's door is open.

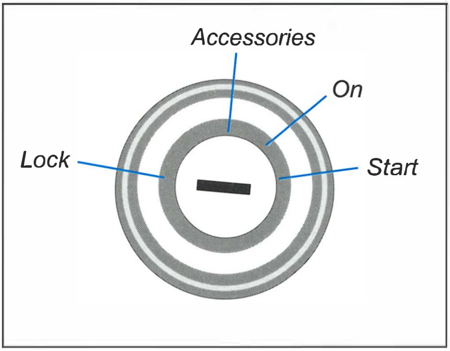
- Pressing LOCK on the key:
  - locks all doors,
  - disables the engine,
  - sets the alarm (after a short delay),
  - switches the interior dome light off (if the switch is set to door position),
  - withdraws the power antenna (if fitted),
  - flashes the exterior turn signals once (and the horn chirps, if selected),
  - deactivates the power windows (if fitted).

- Pressing UNLOCK once on the key:
  - unlocks the driver door,
  - enables the engine for a short time (as does turning the ignition key in the ignition switch),
  - switches off the alarm,
  - switches on the interior dome and power windows (if fitted) for a short time,
  - flashes the exterior turn signals twice (and the horn chirps twice, if selected),
  - switches on the headlights for a predetermined time (adjustable, see LIGHTS in Chapter 1).
- Pressing UNLOCK a second time (or keeping the UNLOCK button depressed for more than half a second):
  - unlocks all the other doors,
  - re-activates headlights again.

IGNITION LOCK

WARNING:

Do not turn the engine off while the vehicle is moving or there will not be any power assist for brakes or steering. Never remove the key while the vehicle is moving, as this will lock the steering.



Lock

When the key is in the LOCK position, all accessories, electrical systems and engine are OFF.

The key is inserted and removed only from the LOCK position.

To help guard against theft, your vehicle engine is automatically disabled shortly after turning the key to the LOCK position, indicated by the flashing padlock symbol 🔒 on the bottom left hand corner of the instrument panel.

In addition, the steering is automatically locked when the key is removed. To release the steering lock and enable the engine, re-insert the key and turn it towards the front of the vehicle.

If you have trouble turning the key to unlock the steering, turn the steering wheel slightly to the right or left while turning the key towards the front of the vehicle.

Accessories

When the key is in the Accessories position, the engine is not running but accessories such as the radio and wipers still operate.

On

When the key is in the ON position, the engine is ready to start (or is already started) and all electrical systems are active.

Note: The warning lights, which are designed to illuminate at the ignition ON position, indicate the systems are working. These are explained near the start of Chapter 1.

Do not leave the switch in the ON position for a prolonged period, unless the engine is running, otherwise the battery will discharge.

Start

This is the position for starting the engine. The key should be released from this position as soon as the engine starts. It automatically returns to the ON position.

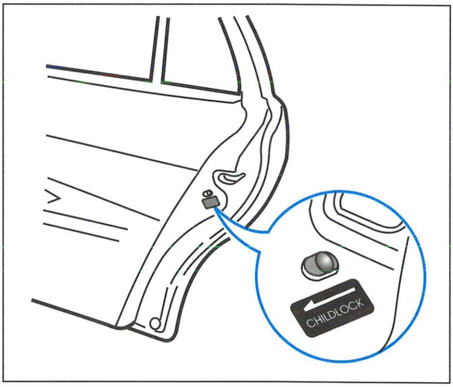
CHILD SAFETY AND FREE TURNING DOOR LOCKS

Child safety rear door locks (sedan and wagon)

Child safety locking helps prevent rear doors being accidentally opened by small children in the vehicle.

The locks are provided on the rear edge of rear doors, accessible when the door is open.

When the lever is in the lock position (to the front of the vehicle) the rear door cannot be opened from the inside. It can be opened only from the outside.



WARNING:

For safety, you should always check that the lock is operating correctly (after setting) by trying to open the door from inside the vehicle.

Free turning door locks

The door lock cylinder is designed to free turn if it is forcefully rotated without the correct key or if the correct key is not fully inserted. To reset, turn the lock with the correct key until its slot is vertical, remove the key and then re-insert it. If the lock still free turns, turn the key through 180 degrees and repeat the operation.

Note: This feature is provided as a theft deterrent – to prevent the lock being forced open. The force required to make the key free turn reduces each time. As the force gets easier with each free turn please do not attempt to demonstrate or test this feature, and always remember to fully insert the key when locking and unlocking the doors.

If you have problems contact your Holden Retailer. Remember that your vehicle is covered for the first 3 years by Roadside Assist, refer to Chapter 9.

BOOT LOCK – SEDAN

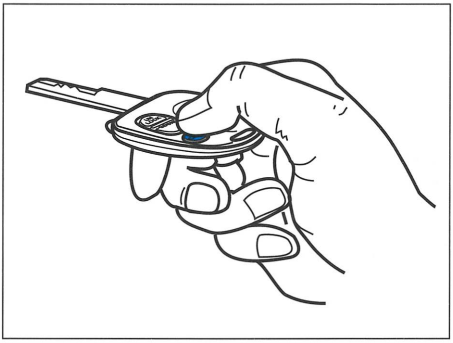
Use one of the methods shown below to unlock the boot. After partly opening the boot lid, gas struts automatically take over to lift and hold the boot lid in the fully open position. The boot locks automatically when pushed shut, so be careful not to leave keys in the boot, as they will be locked in when it is shut.

Key button

Unlock the boot by pressing the 🚗 button on the key.

The button on the key must be pressed for more than half a second and travelling speed must be less than 20 km per hour for the signal to work. This is to stop accidental opening.

When the boot is unlocked, it can then be fully opened from outside.

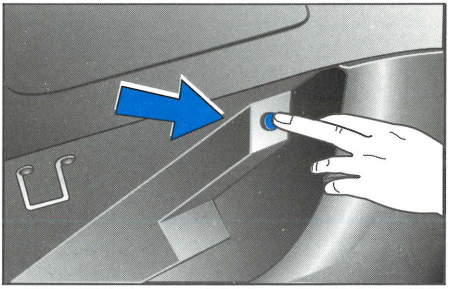


Glovebox button

Push the button in the glovebox to unlock the boot, provided you are not travelling over 20 km per hour or the alarm system is ON.

Then from outside, lift up the boot.

For added vehicle security, the glovebox button is disabled when all doors are locked with the LOCK button on the key or through the door lock.



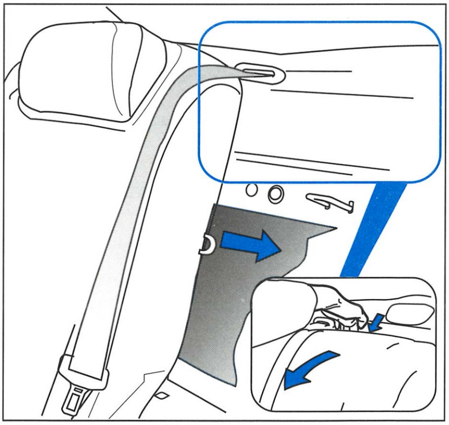
Emergency boot release

An emergency boot release is provided behind the centre of the rear seats.

Push down the lock button at the top of the middle section and fold the middle section down.

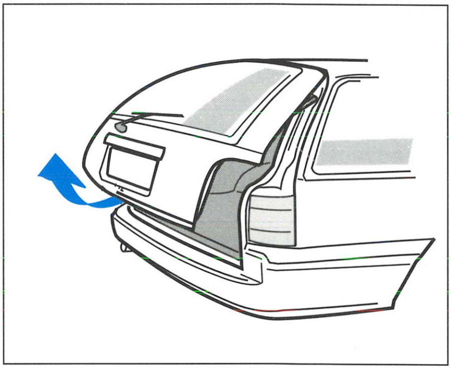
The release is at the top of the cavity. Pull the ring sideways, towards the centre of the vehicle to open the boot.

Note: If your sedan is fitted with LPG, then the release is behind the centre rear seat on the underside of the cavity cross member. Refer to Chapter 5B for further details.



TAILGATE LOCK – WAGON

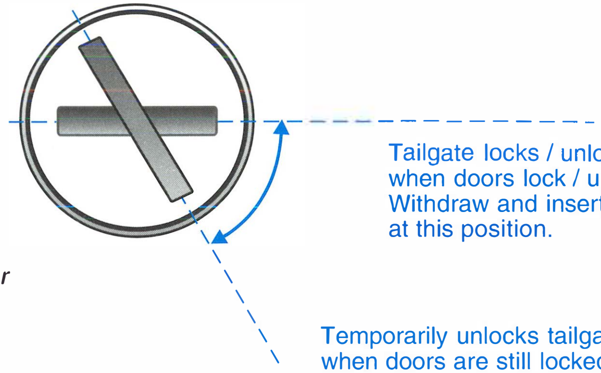
WARNING:
To prevent dangerous exhaust fumes entering the vehicle, close the tailgate when the engine is running. If it is necessary to leave the tailgate open (while carrying bulky cargo) close all windows, switch heater controls to 'fresh' and set fan to highest speed.



The tailgate is locked when the doors are locked, and unlocked when all the doors are unlocked.

To open: When unlocked, push the tailgate button. After partly opening the tailgate, gas struts automatically take over to lift and hold the tailgate in the fully open position.

The tailgate *can* be unlocked with the master key. However, the key cannot be withdrawn while it is unlocked – you must turn the key back to the upright (lock) position in order to withdraw the key. This ensures that the tailgate is locked when the doors are locked.

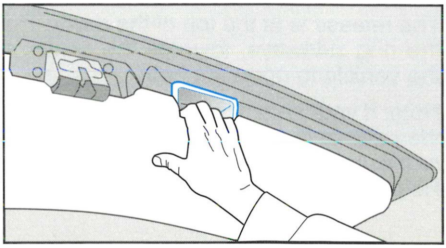


Push lock cylinder inwards to open

Tailgate locks / unlocks when doors lock / unlock. Withdraw and insert key at this position.

Temporarily unlocks tailgate when doors are still locked.

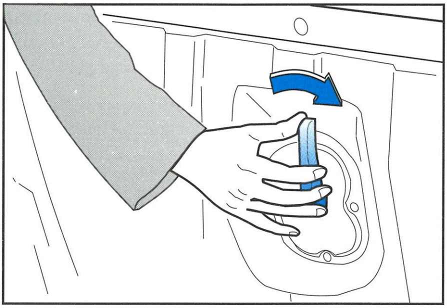
A pull down handle is provided to help you close the tailgate.



TAILGATE LOCK – UTILITY

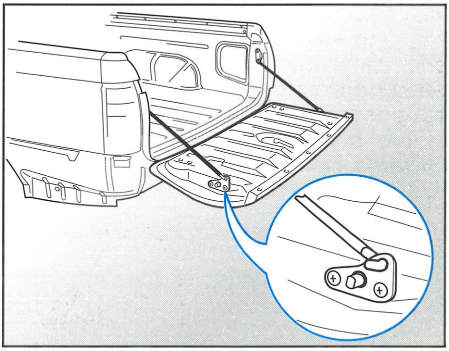
To lower

Reach inside, at the middle of the tailgate and move the lever to the left.



The tailgate support cable can be disconnected, if required.

However, when reconnecting the cable, ensure that each hook is pointing outwards as shown.



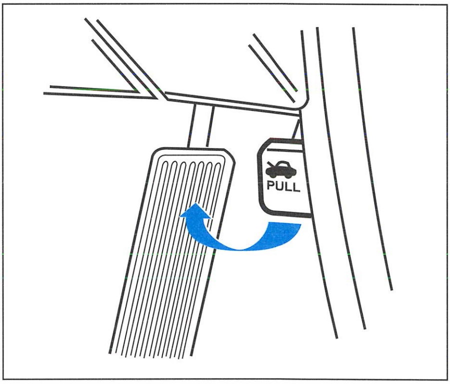
To close

Lift up the tailgate and push firmly back into place.

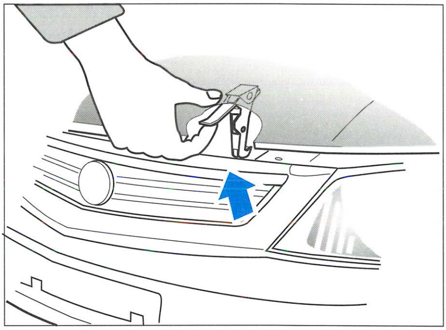
BONNET LOCK

To open

From the driver's side of the vehicle, pull the lever shown towards you.



This allows the bonnet to release but is prevented from opening by the safety catch. To open completely, reach under the centre of the bonnet and move safety catch upwards. Hold in this position and raise the bonnet.



After you have partially lifted the bonnet, gas struts automatically take over, to lift and hold the bonnet in the fully open position.

To close

For closing, simply pull the bonnet down and push firmly back into place.

NOTES

CHAPTER 3

Know your vehicle

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3-5 Wagon rear seat adjustment
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3-28 Tonneau cover – utility
3-33 Sports bar – utility

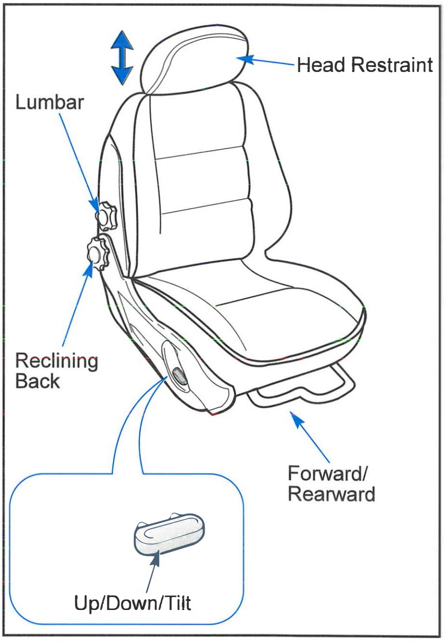
FRONT SEAT

SINGLE SWITCH TYPE

The switch fitted to these types of seats electrically controls the height and tilt adjust of the front seats. The other seat adjustments are made manually.

Driver height and tilt adjust

Move the whole of the switch up or down to move the whole of the seat up or down. The switch can also be tilted to adjust the seat angle. Tilt the switch up at the front to tilt the front of the seat up. Similarly, tilt the switch down at the rear to tilt the seat down at the rear.



Forwards / backwards

Lift up the bar at the front of the seat, then slide the seat forwards or backwards. Release the bar. Try to move the seat back and forth to check that the catch is fully engaged.

WARNING:

Do not adjust the driver seat when the vehicle is moving as the seat could move suddenly causing the driver to lose control.

Reclining back

Turn the lower toothed wheel on the door side of the seat. The seat back moves in the same direction as the top of the wheel.

WARNING:

To avoid reducing the effectiveness of seat belts, seats should only be semi-reclined when the vehicle is moving. The fully reclined position should only be used when the vehicle is stationary.

Lumbar support (if fitted)

Turn the upper wheel to alter support given to the lower part of your back.

Head restraint

Note: This safety feature is not intended as a headrest. It is solely for the reduction of whiplash neck movement in a car accident.

To raise the height of the head restraint, simply pull the head restraint up. To lower the height of the head restraint, push in the locking clip at the base of the head restraint pole and push the head restraint down. The upper edge of the head restraint should be approximately at eye level, never at neck level.

In addition, some models have several tilt angles provided. Pull the head restraint forward. When the last position has been reached, a further pull returns the head restraint to the rearward, upright position.

WARNING – SIDE IMPACT AIR BAGS (IF FITTED):

Do not fit unauthorised seat covers as they may impair the deployment of the side impact air bags. Do not position your body or any object (including pillows) between front seats and doors. Front seat occupants should not lean on or sleep against the door. Always sit centrally in the seat.

FRONT SEAT cont.

DUAL SWITCH TYPE

Two switches are fitted to these types of seats. The front switch is used to electrically adjust the height, the tilt and the movement of the seat forwards and backwards. The rear switch is used to electrically adjust the angle of the back of the seat. Adjustment to lumbar support and head restraints are made manually.

Height and tilt adjust (front switch)

Move the whole of the switch up or down to move the whole of the seat up or down. The switch can also be tilted to adjust the seat angle. Tilt the switch up at the front to tilt the front of the seat up. Similarly, tilt the switch down at the rear to tilt the seat down at the rear.

Forwards / backwards (front switch)

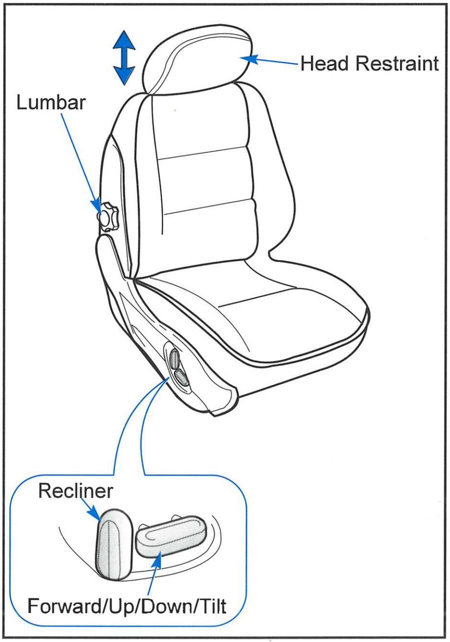
Move the whole of the switch forwards or backwards, as required. The seat moves in the same direction as the switch.

Reclining back (rear switch)

Tilt the switch to adjust the angle of the back of the seat. The seat back moves in the same direction that the switch is tilted to.

WARNING:

To avoid reducing the effectiveness of seat belts, seats should only be semi-reclined when the vehicle is moving. The fully reclined position should only be used when the vehicle is stationary.



Lumbar support

Turn the wheel to alter support given to the lower part of your back.

Head restraint

Note: This safety feature is not intended as a headrest. It is solely for the reduction of whiplash neck movement in a car accident.

To raise the height of the head restraint, simply pull the head restraint up. To lower the height of the head restraint, push in the locking clip at the base of the head restraint pole and push the head restraint down. The upper edge of the head restraint should be approximately at eye level, never at neck level.

In addition, several tilt angles are provided. Pull the head restraint forward. When the last position has been reached, a further pull returns the head restraint to the rearward, upright position.

WARNING – SIDE IMPACT AIR BAGS (IF FITTED):

Do not fit unauthorised seat covers as they may impair the deployment of the side impact air bags. Do not position your body or any object (including pillows) between front seats and doors. Front seat occupants should not lean on or sleep against the door. Always sit centrally in the seat.

REAR SEAT

Sedan rear seat

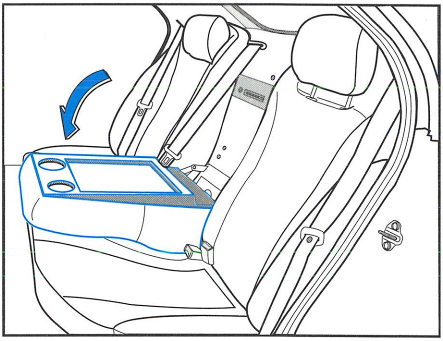
The middle section of the rear seat may be folded forwards to gain access to the boot area or for carrying long, awkward loads.

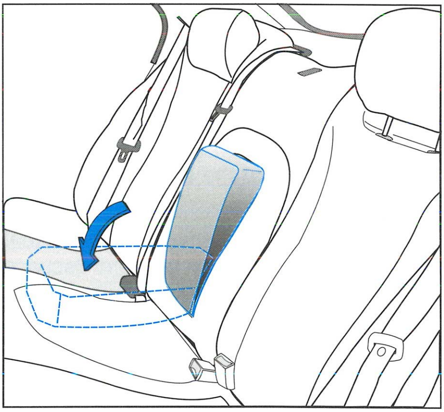
To fold the middle section forward, push down the lock button at the top of the middle section.

To return to the upright position, simply push back into place and ensure that the lock button is engaged and the seat belt is free.

In addition, some higher luxury models have an armrest provided in the middle section. To fold down the armrest, insert your hand at top of the armrest and pull down. Push up armrest if upright position is required.

Note: The small toggles located under the front of the rear seat are provided for ease of seat removal. They are not designed for any other purpose.





Adjustable rear head restraints (if fitted)

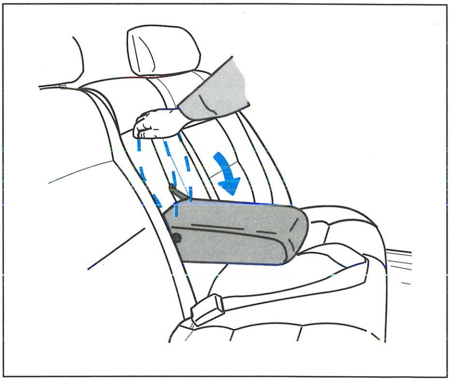
Note: This safety feature is not intended as a headrest. It is solely for the reduction of whiplash neck movement in a car accident.

To raise the height of the head restraint, simply pull the head restraint up. To lower the height of the head restraint, push in the locking clip at the base of the head restraint pole and push the head restraint down. The upper edge of the head restraint should be approximately at eye level, never at neck level.

Wagon rear seat

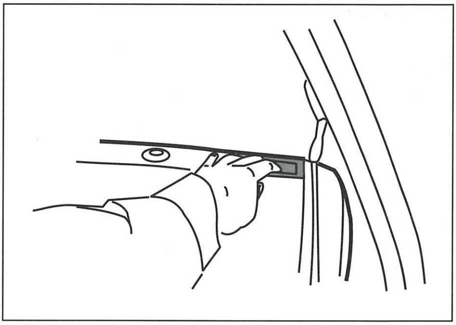
Some wagon models have an armrest provided in the middle of the rear seat. To fold down the armrest, insert your hand into the top of the armrest and pull down.

The armrest should always be tucked back up into the seat-back when folding the seat-back forwards, see following page.



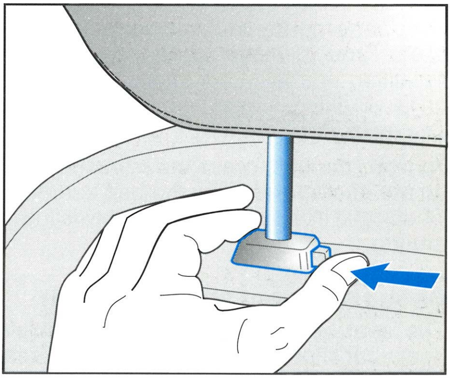
WAGON REAR SEAT FOLD DOWN

The rear seat is divided into two sections. Either section or both sections may be folded down.



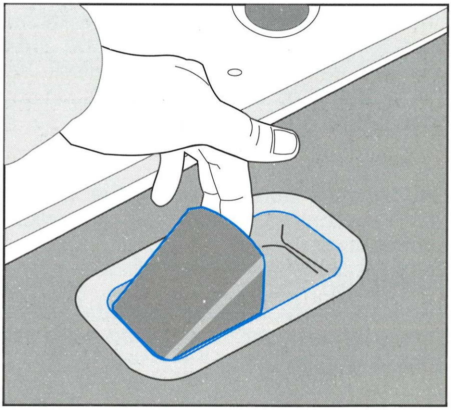
To fold down a section:

1. Push down the lock button located on the upper edge of the seat.
2. Pull the seat-back forward and down.



3. If a rear head restraint contacts the front seat while folding the rear seat down the rear head restraint should be removed.

   Push in the locking clip at the base of the head restraint pole and pull the head restraint up and out.
4. Apply pressure to the seat-back when in the down position to lock the seat into place.



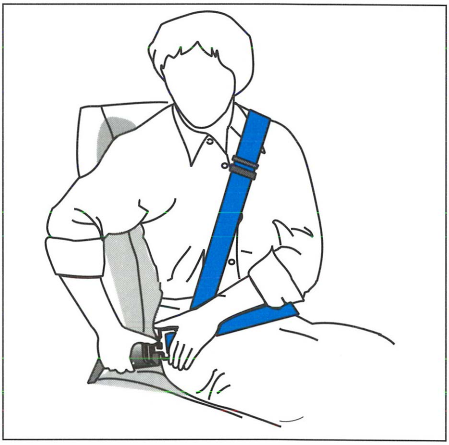
To return the seat-back to the upright position, pull the release handle outwards while raising the seat-back. Return the seat to the upright position. Ensure that the seat-back is secured firmly in place and that the seat belts are free.

Replace any head restraints by pushing in the locking clip located where the head restraint slots into the seat-back while inserting into place.

WARNING:
To avoid injury from passing traffic, it is safer to stand on the kerb side of the vehicle when converting the rear seat.

SEAT BELTS

Lap / sash belts



To fasten, pull the metal tongue across your body and clip it into the buckle. When the metal tongue is locked safely into place you will hear a 'click'. After fastening, settle the belt at the hip, and run your hand under the sash from hip to shoulder to ensure that the belt fits comfortably and is free from twists. Any extra belt length retracts automatically.

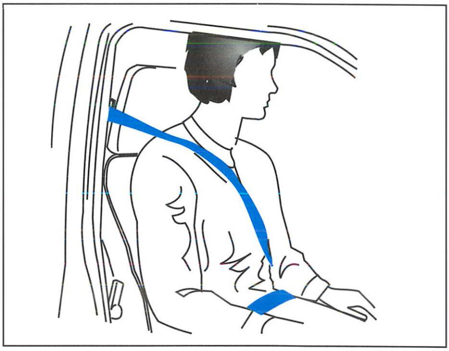
Ensure the lap section of the belt is also free from twists and fits firmly across your hips.

Note: For your safety, the lap section of the seat belt should be worn as low as possible on your hips, not on your waist or abdomen.

The 'emergency-locking retractor belt' allows you to move while the vehicle is travelling normally, but locks immediately on fast braking, impact with a solid object or any quick movement by the wearer.

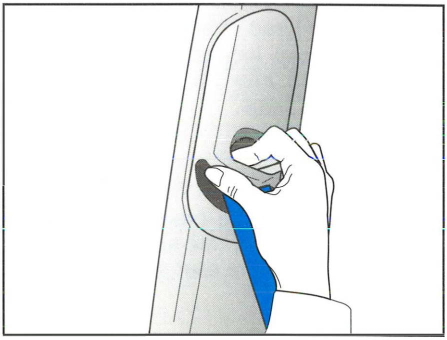
To undo the belt, press the release button on the buckle and allow the belt to retract. Check that it fully retracts without twisting or turning.

Shoulder height adjust (if fitted)



The seat belt is anchored to the vehicle near your shoulder. The position of the seat belt anchor can be adjusted to accommodate the height of the wearer.

Short people should select a low anchor position; tall people a higher one. This ensures, for both safety and comfort, that the webbing of the seat belt fits on the shoulder as shown.



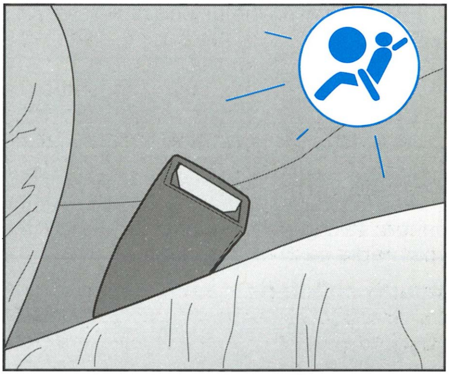
Squeeze the adjuster and move it up or down as required. Ensure the anchor clicks into position.

WARNING:

For your safety, the driver's side shoulder anchor should not be adjusted while the vehicle is in motion.

SEAT BELTS cont.

Seat belt pretensioners



The front seat belt system incorporates seat belt pretensioners. Seat belt pretensioners are part of the Supplemental Restraint System (SRS) and operate in conjunction with air bags (where fitted). In the event of a frontal collision the belt buckles are pulled downwards, instantly tightening both the diagonal and lap sections of the seat belt.

If the belt pretensioners have been activated, the **SRS** light on the instrument panel will not go out after the usual few seconds. This is designed to remind you that the pretension system has been used and therefore needs to be replaced by your Holden Retailer. The seat belts will remain operational, apart from this safety feature.

If the **SRS** light comes on at any other time, or if the warning 'SRS Airbag Fault' is displayed on the instrument panel, you should see your Holden Retailer immediately to have the system checked. Refer to Chapter 1 for further information about warnings and reminder indications.

Australian law requires that the driver and all passengers are properly restrained at all times with the seat belts provided in the vehicle. Failure to do so could increase the chance of injury and / or the severity of injury in accidents.

WARNING:

Seat belts are designed to bear upon the bony structure of the body, and should be worn low across the front of the pelvis or the pelvis, chest and shoulders, as applicable; wearing the lap section of the belt across the abdominal area must be avoided.

Seat belts should be adjusted as firmly as possible, consistent with comfort, to provide the protection for which they have been designed. A slack belt will greatly reduce the protection afforded to the wearer.

Care should be taken to avoid contamination of the webbing with polishes, oil and chemicals, and particularly battery acid. Cleaning may safely be carried out using mild soap and water. The belt should be replaced if webbing becomes frayed, contaminated or damaged.

It is essential to replace the entire assembly after it has been worn in a severe impact, even if damage to the assembly is not obvious.

Belts should not be worn with straps twisted.

Each seat belt assembly must only be used by one occupant; it is dangerous to put a belt around a child being carried on the occupant's lap.

No modification or additions should be made by the user which will either prevent the seat belt adjusting devices from operating to remove slack, or prevent the seat belt assembly from being adjusted to remove slack.

The positioning of the tongue restrictor must never interfere with, or stop, the belt from fully retracting.

WHICH TYPE OF CHILD RESTAINT FOR YOUR CHILD?

Children should be restrained at all times and fitted with a child restraint appropriate to their size when travelling in a vehicle. Following are some guidelines about selecting the appropriate restraint for your child.

Infants

Rearward facing infant capsule		
Weight	**Height**	**Approx. Age**
Less than 9 kg	Less than 70 cm	Up to 6 mths

Designed so that in the event of a collision, impact forces will be evenly spread over the baby's back, with minimal jarring to the vulnerable head and neck area.

Young children

Forward facing child seat		
Weight	**Height**	**Approx. Age**
8 to 18 kg	70 to 100 cm	6 mths to 4 yrs

For use when the child is able to sit and easily hold his or her head upright. It is also possible to purchase convertible seats which can be used as a rearward facing infant restraint or converted to a forward facing child seat.

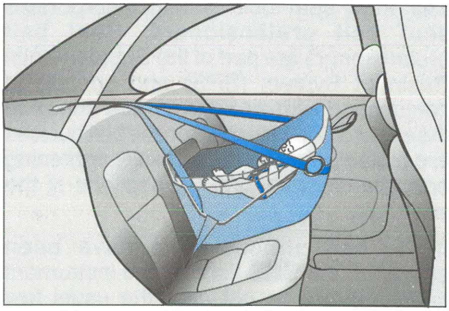
Booster seat with lap / sash seat belt		
Weight	**Height**	**Approx. Age**
–	More than 100 cm	4 to 10 yrs

When children outgrow a typical forward-facing child seat but they are still too small for lap / sash seat belts. A booster seat raises the child so that the knees bend comfortably, the lap / sash seat belt is correctly positioned and the child can see out the window. A rigid booster seat with a back, side wings and sash guide gives the best protection. In assessing the range of children who would benefit from booster seats, height is a better indicator than age or weight.

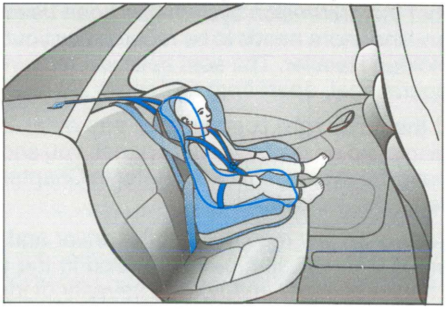
Older children

A child should use a normal lap / sash seat belt only when:

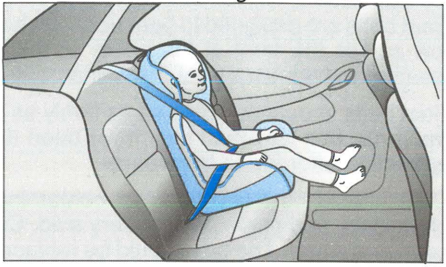
- he / she can sit against the back of the rear seat with knees bent comfortably at the edge of the seat,
- lap belt rests low and snug across the hips – not across the stomach,
- sash belt is centred on shoulder and chest,
- he / she is able to stay seated like this for the entire trip.



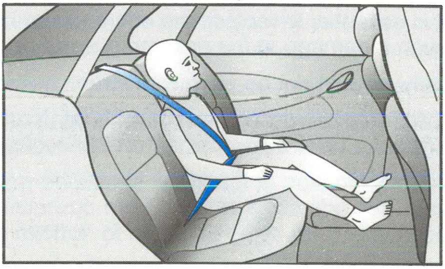
Rearward facing infant capsule



Forward facing child seat

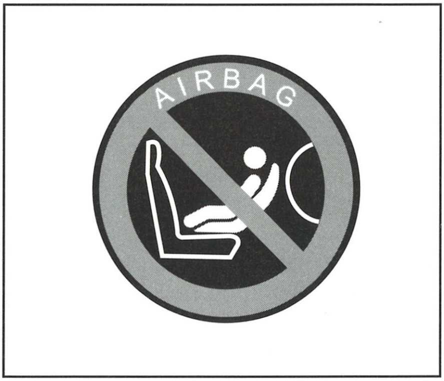


Booster seat with lap / sash seat belt



Adult lap / sash seat belt

CHILD RETRAINTS



EXTREME HAZARD:

Do not use a rearward facing child restraint on a seat protected by an air bag in front of it.

Children should be restrained at all times when travelling in a vehicle. Always ensure that the seat belt fits firmly around the child restraint.

If a child can not see out of the window, do not raise him / her by means of an ordinary cushion. It will not stay in place in a collision and the child can slip out of the straps and become entangled.

WARNING:

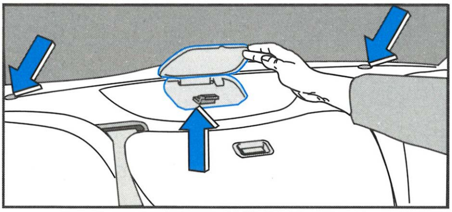
- Child restraint anchorages are designed to withstand only those loads imposed by correctly fitted child restraints. Under no circumstances are they to be used for adult seat belts, harnesses or for attaching other items or equipment to the vehicle.
- Only child restraints that have clips to attach to the vehicle's anchorage fitting (as shown in the following illustrations) are to be used. Earlier types of child restraints may not attach securely to this type of anchor.
- Only Standards Australia approved child restraint harnesses should be used on anchocrage points. See your Holden Retailer for advice about the various types of approved child restraints available.
- NEVER install a rearward facing child restraint in the front seat of a vehicle with a passenger's air bag. The child could be seriously injured if the passenger's air bag inflates, as the child's head would be very close to the inflating air bag.
- NEVER install a child restraint in the front seat of a vehicle fitted with Side Impact Air Bags (SIAB). Remember that it is safest for children to be seated in the rear seats.
- Where legally allowable, you may install a forward-facing child restraint in the front seat (without SIAB), but always move the passenger's seat as far back as it will go.

Sedans and Wagons

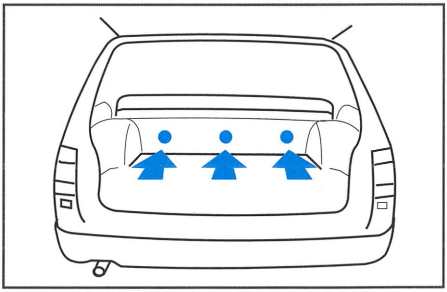
Your vehicle is fitted with three anchorage points for child restraints. An anchor fitting has been provided in the centre position.

Sedans: Anchor locations are behind the rear seats, as shown.

The centre position is hidden by a hinged cover. Pull the cover up at the front to access the anchor.



Wagons: Anchor locations are on the rear of the rear seat backs, as shown.



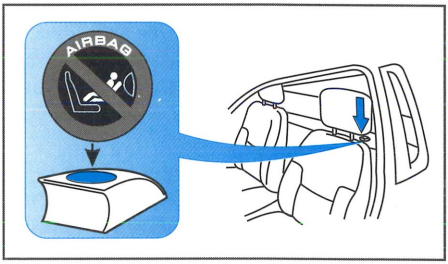
CHILD RESTRAINTS cont.

Utilities

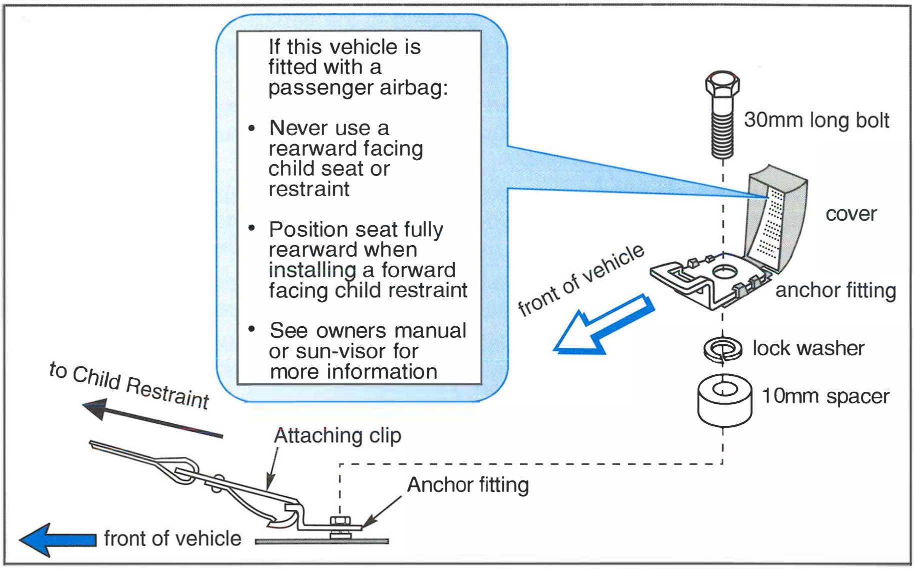
Your vehicle is fitted with an anchorage point for child restraints. An anchor fitting has been provided behind the passenger's seat, as shown.

Pull the cover up at the front to access the anchor fitting for a child restraint.

Note: Depending upon local law, it may be illegal to fit child restraints in the front seat of your vehicle.



The illustration below shows how the anchorage fitting was fitted on your vehicle, in case it may have been removed. Ensure that the bolts are securely tightened between 15 and 25 Nm. Check with your Holden Retailer if unsure.



If this vehicle is fitted with a passenger airbag:

- Never use a rearward facing child seat or restraint
- Position seat fully rearward when installing a forward facing child restraint
- See owners manual or sun-visor for more information

30mm long bolt
cover
front of vehicle
anchor fitting
lock washer
10mm spacer
to Child Restraint
Attaching clip
Anchor fitting
front of vehicle

ADDITIONAL CHILD RESTRAINTS – SEDAN AND WAGON

All sedans and wagons are fitted with one child restraint anchor in the centre position. Additional anchor fittings may be installed at the other anchorage points in your vehicle as shown on this page, for both sedans and wagons. Fittings may be purchased from your Holden Retailer.

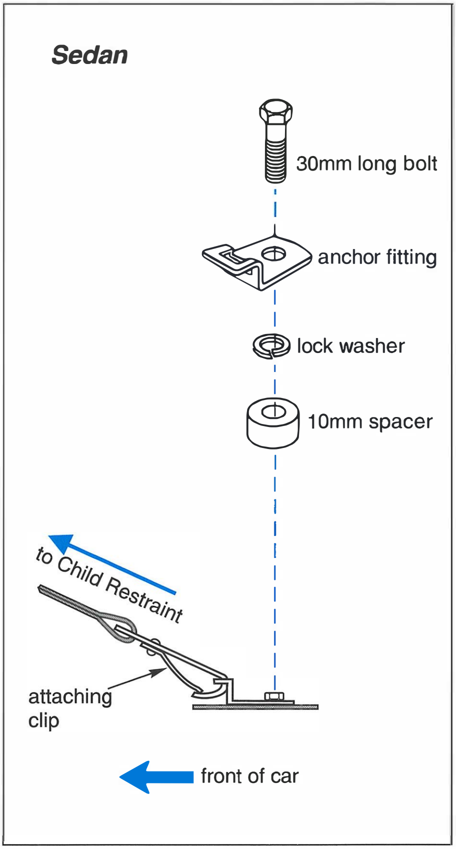
WARNING:

Child restraint anchorages are designed to withstand only those loads imposed by correctly fitted child restraints. Under no circumstances are they to be used for adult seat belts, harnesses or for attaching other items or equipment to the vehicle.

Only child restraints that have clips to attach to the vehicle's anchorage fitting (as shown in the following illustrations) are to be used. Earlier types of child restraints may not attach securely to this type of anchor.

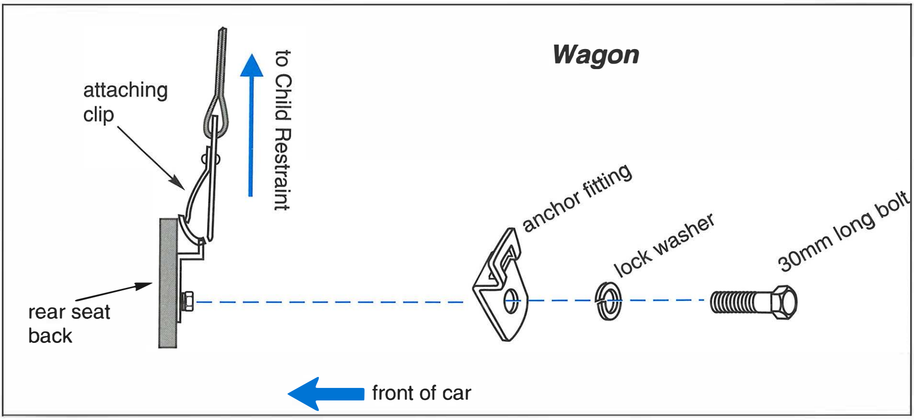
Only Standards Australia approved child restraint harnesses should be used on anchocrage points. See your Holden retailer for advice about the various types of approved child restraints available.

If you wish to put a child restraint in either of the outer positions, first remove the cover plug. Then, install the additional anchor fitting, using the bolt, lock washer and spacer (for sedan only), as per the illustrations. Ensure that the bolts are securely tightened to between 15 and 25 Nm. Check with your Holden Retailer if unsure.



Sedan

30mm long bolt
anchor fitting
lock washer
10mm spacer
to Child Restraint
attaching clip
front of car



Wagon

attaching clip
to Child Restraint
anchor fitting
lock washer
30mm long bolt
rear seat back
front of car

WINDOWS

Power windows (if fitted)

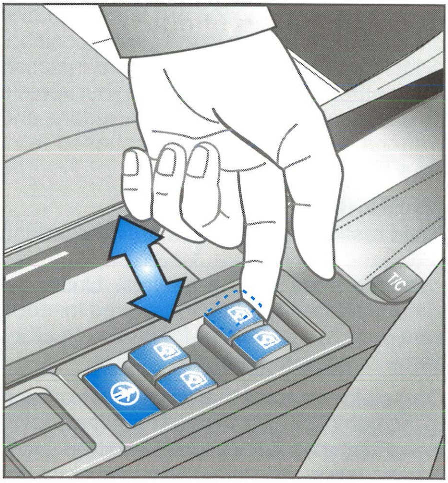
The main window switches are located between the front seats.

The switches are operational when the ignition is turned to ON or the UNLOCK button on the key is pressed.

The switches also remain operational when the ignition is turned OFF for 60 minutes while the doors remain closed and for 45 seconds after a door is opened.

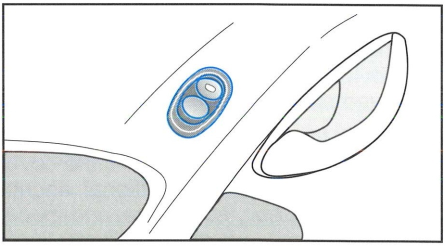
Note: Green lights in the switches indicate when they are active.

To raise the window, pull up the switch; to lower, push down the switch.



Rear power windows (if fitted) can also be operated by individual switches located on the rear doors.

These *rear door* switches can be deactivated / reactivated by pressing the 'child safety' switch in the centre console. The rear window switches are deactivated when the switch is in the down position.



Auto down – front windows only

Hold the switch down for more than half a second and then release. To interrupt the 'auto down', move the switch up or down again.

Rock the down button to open the window in short steps.

Time delay

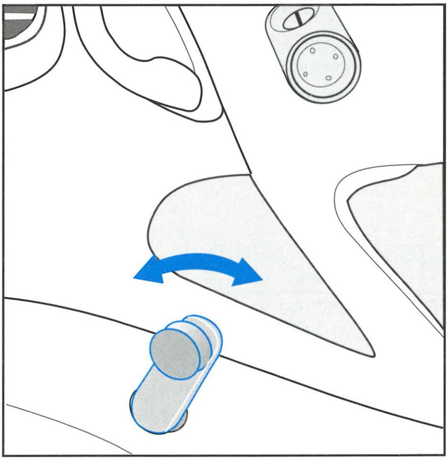
The windows can be operated for about one hour after turning off the ignition or pressing UNLOCK on the car key, provided all the doors are kept shut. Once a door is opened, the windows can only be operated for 45 seconds. The green 'active' light in the switches will go off when the time delay finishes.

Pressing LOCK on the car key disables the windows immediately.

WINDOWS cont.

Manual windows (if fitted)

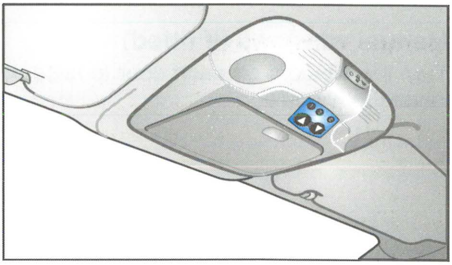
Turn the winders on each door to raise or lower the window.



SUNROOF (if fitted)

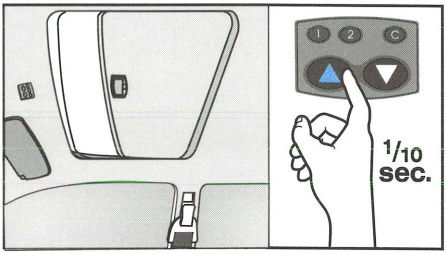
Sunroof (if fitted)

The sunroof control buttons are built-in to the roof console which is located at the centre-front of the roof's interior, directly above the windscreen.



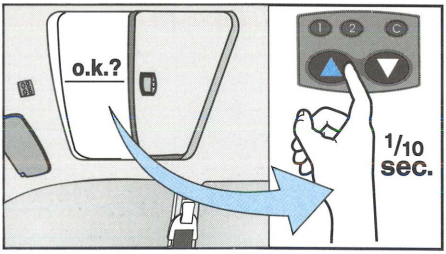
Opening the sunroof

Press the ▲ button briefly (maximum 0.3 second) to open the sunroof fully. Pressing the ▲ button while the panel is moving will stop the sunroof at any desired position. Press the ▲ button once more to resume opening the sunroof.

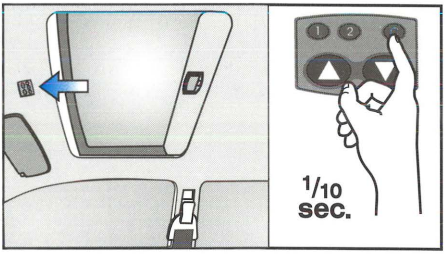


Closing the sunroof

Press the ▼ button briefly (maximum 0.3 second) to close the sunroof fully. Pressing the ▼ button while the panel is moving will stop the sunroof at any desired position. Press the ▼ button once more to resume closing the sunroof.



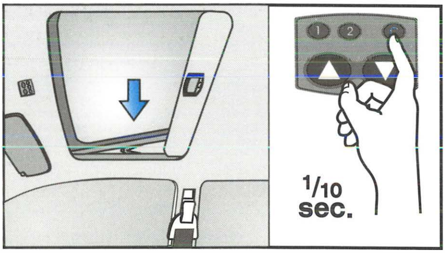
Press the Ⓒ button to completely close the sunroof from any slide or tilt position.



Auto-close function

After turning off your vehicle's ignition, the sunroof closes automatically, 3 seconds after giving a warning beep. During this 3 second interval, you can stop the sunroof from closing by pressing either of the arrow buttons (▲ or ▼). Once the sunroof has commenced closing, pressing either of the arrow buttons will stop the panel at any desired position.

Note: A Jamming Protection facility becomes active whenever the sunroof is closed manually or automatically. If the panel encounters an obstacle while closing, it will immediately open again. The sunroof will continue to try and close until the obstacle has been removed.

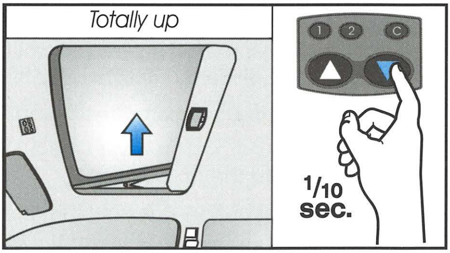


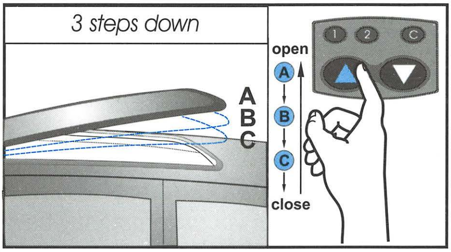
SUNROOF (if fitted) cont.

Tilting the sunroof

The sunroof panel may be tilted to three different tilt positions (A, B and C) as shown.

To tilt the sunroof fully to the A position, from the closed position, press the ▼ button briefly (maximum 0.3 second). Press the ▲ button once for each tilt level (B and C), to achieve the desired position.



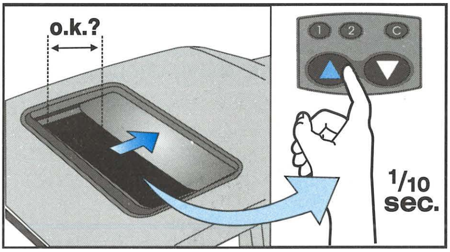


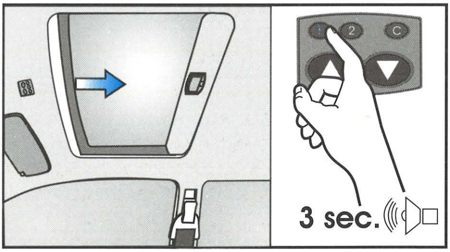
Preset sunroof positioning

The sunroof may be programmed to stop at either of two preset positions (❶ and ❷) automatically.

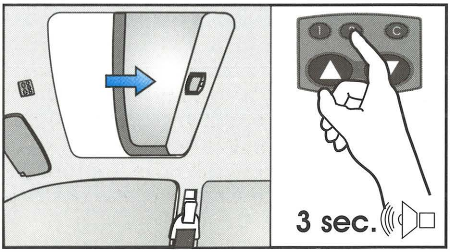
To program preset positions:

1. Place the panel in the desired position.
2. Push and hold button ❶ for approximately 3 seconds until a beep is heard.
3. Place the panel in the second desired position.
4. Push and hold button ❷ for approximately 3 seconds until a beep is heard.





Opening the sunroof using button ❶ or ❷ will stop the sunroof in either preset position as programmed.



SUNROOF (if fitted) cont.

Resetting the sunroof (when the battery has been disconnected)

The sunroof's maximum tilt and maximum open positions need to be reset if the vehicle's battery has been disconnected for any length of time.

To reset the sunroof maximum tilt and open positions after the battery has been reconnected:

1. Turn ignition to the on position.
2. Push and hold button ▼ until the sunroof reaches the maximum tilt position, then release the button. The maximum tilt position is now stored.
3. Press the C button to completely close the sunroof from the maximum tilt position.
4. Press the ▲ button briefly (maximum 0.3 second) to open the sunroof to the maximum open position. The maximum open position is now stored and the sunroof is fully reset.

Cleaning and maintenance

The glass panel of your sunroof may be cleaned using a mild, non-abrasive detergent and a moist, soft cloth.

WARNING:

The tinted glass panel of your sunroof is heat and UV resistant. Ensure that due care is taken, and that the above directions are followed when cleaning.

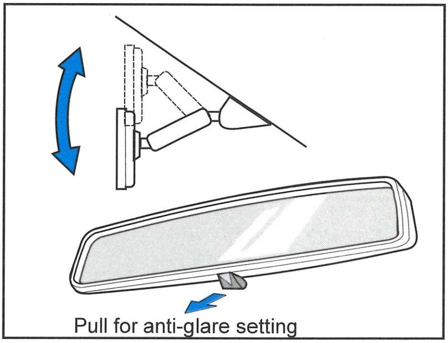
MIRRORS

Internal rear view mirror

Moving the lever on the lower edge of the mirror reduces headlight glare from following vehicles when driving at night.

During daylight driving, the lever should be set forward, away from the driver. At night, flick the lever towards the driver.

Note: Rear view clarity is reduced when the mirror is set to the 'night' position.



External rear view mirror

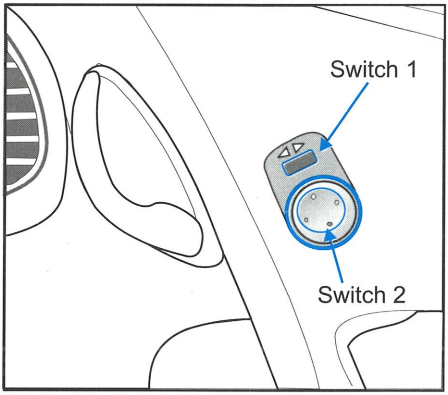
Mirror angle can be adjusted using the switches on the driver's door armrest, when the ignition is turned ON.

Rock *switch 1* to left mirror, or right mirror.

Press the dot on the edge of *switch 2* in the direction you wish the mirror to move. The mirror can move up, down, left or right.

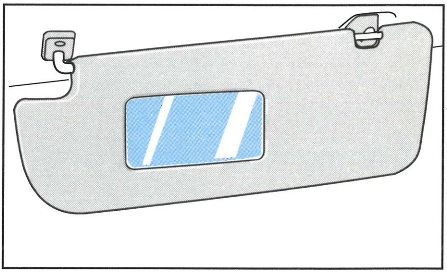
WARNING:

The passenger's mirror is convex shaped, to provide a wider view. Objects seen in this mirror will appear further away than they actually are.



Vanity mirror

A vanity mirror is provided on the passenger's sunvisor.

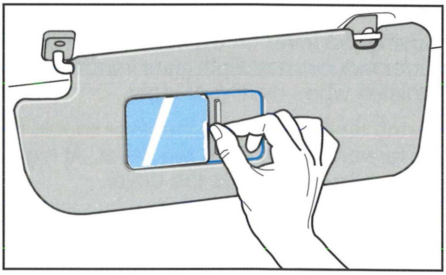


MIRRORS cont.

Vanity mirror with cover (if fitted)

On some models, a vanity mirror with a cover is provided on the driver's sunvisor.

Slide the cover to the right to view the mirror.

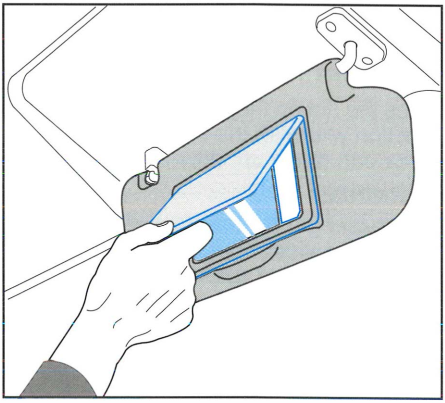


Vanity mirror with light (if fitted)

On higher luxury model vehicles a vanity mirror is provided on both the passenger's and driver's side sunvisors.

The mirror cover is hinged at the top. To view the mirror, pull the cover up from the lower edge.

The lights at either side of the mirror automatically turn on and off when the cover is opened and closed.



INTERIOR LIGHTS

Interior (dome) light

The interior light is located either in the centre of the roof (dome) or centre-front of the roof's interior (in the roof console). It can be switched to:

ON (always on)

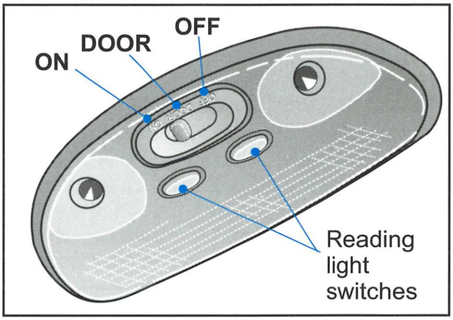
DOOR

or O **OFF** (always off)

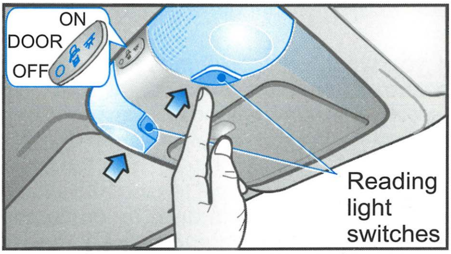
DOOR: The light automatically switches on when a door is opened and switches off 30 seconds after all doors are closed. Switching the ignition on turns the light off immediately (unless a door remains open). DOOR is the centre position for the switch.

For your convenience, the interior light can be set at the instrument panel to remain illuminated for a period of zero to 255 seconds after the ignition has been turned OFF (refer to Chapter 1, CUSTOMISATION MODE for details about this setting).

The operation of interior lights is also affected by the Battery Saver and Accessory Control features. Refer to page 3-20 for details.



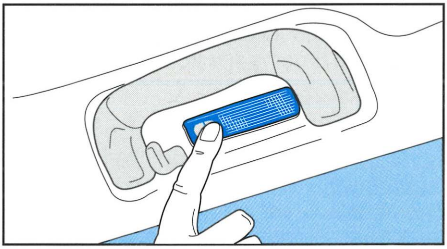
Centre dome light



Front dome light (in roof console)

Front reading lights (if fitted)

Front reading lights are incorporated either in the dome light assembly, or centre-front of the roof's interior. Press the individual switches to turn the reading lights off or on, as required.

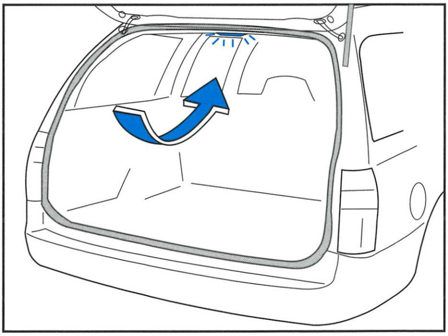


Rear reading lights (if fitted)

The rear reading lights (above the rear doors) may be individually turned to OFF, ON or to DOOR. If DOOR is selected, then they operate in the same way as the dome light.

Wagon rear compartment light

The light illuminates when the tailgate is open and automatically switches off when the tailgate is closed.



ACCESSORY CONTROL AND BATTERY SAVER

Accessory Control

Your vehicle is equipped with an accessory control feature that can be set at the instrument panel to shut down all accessories (radio, power socket, wipers etc.) either when the ignition key is turned OFF, or when the driver's door is opened (refer to Chapter 1, CUSTOMISATION MODE for details about this setting).

A 1 hour timer will also shut down accessories (radio, power socket, wipers etc.) where the accessory control feature has been set to 'Door Open' or after an accessory has been turned on manually once the ignition is OFF. For example, if accessory control is set to 'Door Open', and the radio is ON, the radio will continue to operate until such time as the driver's door is opened. However, if the door is NOT opened, the radio (and other operating accessories) will be shut down automatically 1 hour after the ignition is turned OFF.

Note: Operating accessories will NOT be turned off immediately when your vehicle is locked using either the remote locking device or the driver's door key. Accessories are only subject to manual operation, accessory control settings and the 1 hour shut down timer.

If you want the accessories to continue operating once an automatic shutdown has occurred, you must 'wake up' the system by either manually starting an accessory (eg. turning the radio ON again), or by turning the ignition to ON and then OFF again (if accessory control is set to 'Door Open'). These actions will reset the timer to zero. Likewise, if an accessory such as the radio is turned to ON at any time during the 1 hour period, the timer is reset to zero and all accessories will continue to operate for a further hour. Please note that once an automatic shut-down has been activated (i.e. ignition turned OFF or door opened), the accessory control setting will no longer be active (i.e. accessories will NOT be switched off by opening the driver door even if accessory control is set to 'Door Open'). To enable accessory control after the system has been reset, you must turn the ignition ON and then OFF again.

Note: The 1 hour shut-down timer only operates if the key is in the LOCK position (turned OFF). The timer is not active if the key remains in the ACC or ON positions.

Battery Saver

A battery saver feature has also been built into your vehicle to ensure that all internal lights (dome, reading, foot well, ignition, door, glovebox and boot) will switch off automatically after 1 hour to discourage depletion of your battery.

The battery saver will activate when there have been no lights or accessories turned on for 1 hour after the ignition has been switched OFF.

Once the interior lighting system has been shut down by the 1 hour battery saver, it can be 'woken up' by a number of actions, such as turning the ignition ON, unlocking the vehicle, or opening the boot etc. Once the system is awake, the 1 hour battery saver time resets to zero and interior lights will continue to operate for a further hour, or until the vehicle is locked.

The interior lighting system will shut down 10 seconds after your vehicle is locked using either the remote locking device or the driver door key. However, please note that if an interior light (such as the dome light) has been turned on manually and is illuminated at the time the vehicle is locked, the lighting system will NOT shut down after the usual 10 seconds; the 1 hour battery saver will be activated instead.

Hazard Lights

Note: Hazards lights are not subject to either the accessory control or battery saving devices. They will continue to operate outside the 1 hour timed shut-down that applies to other interior lights and accessories, and also in all ignition key positions (ON, ACC and LOCK).

GLOVEBOX, STORAGE COMPARTMENTS AND CONSOLE

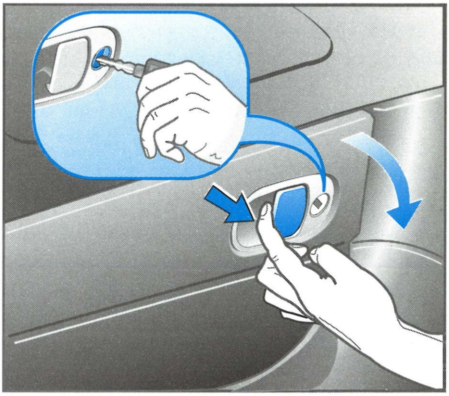
Glovebox

The glovebox, provided in all vehicles, is located in the dashboard directly in front of the passenger seat.

A specific key is provided solely to lock and unlock the glovebox. For security, the master key is not designed to operate the glovebox lock. Refer to page 2-2 for more information about keys.

To lock, insert the glovebox key, turn it clockwise and then withdraw. To unlock, insert the glovebox key and turn it anticlockwise.

To open the glovebox, pull the left side of the catch towards you. To close, push the lid firmly back into place.

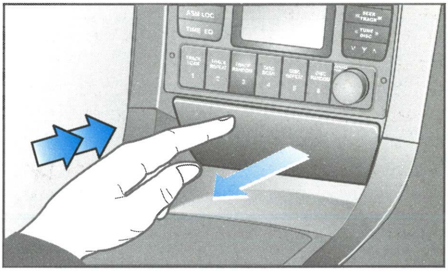


Front and rear storage compartments

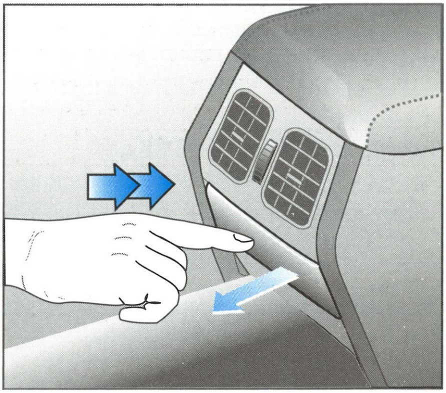
All vehicles are built with storage compartments, front and rear, which are fitted with a 'push-push' cover. The front storage compartment is located beneath the radio system, and the rear storage compartment is at the rear of the centre console.

The storage compartments can be replaced, if required, by an ashtray assembly (refer to page 3-24 for details).

An open storage bin is also provided beneath the main front storage compartment (or ashtray) to accommodate coins and other small objects.



Front storage compartment (if fitted)



Rear storage compartment (if fitted)

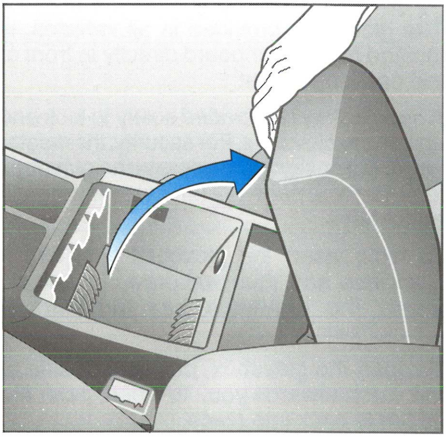
GLOVEBOX, STORAGE COMPARTMENTS AND CONSOLE cont.

Centre console

The front armrest opens into a storage area. Lift the lid at the front edge to open it to a near vertical position.

Note: The console lid should not be forced further backwards.

The rubber lining inside the console has been designed to hold CDs, coins and a pen. It also provides space to accommodate a standard mobile telephone / charger which may be plugged into the power socket located inside the console (refer to page 3-24 for details).

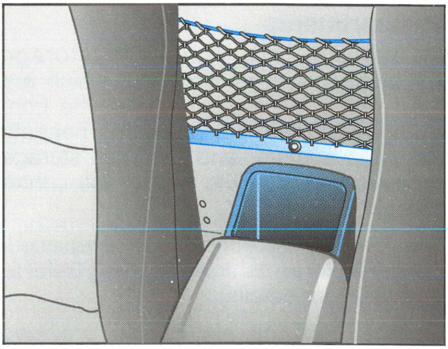


Stowage bin and net (utility)

For the stowage of small items there is a stowage bin provided at the rear of the centre console. There is also a stowage net attached to the back panel trim.

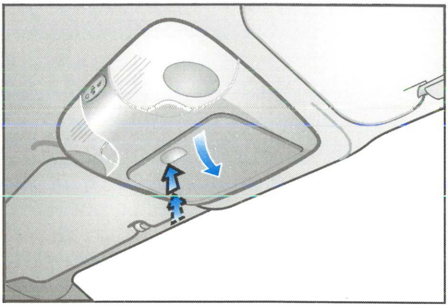
WARNING:

For safety reasons, do not leave articles or luggage (particularly heavy, sharp or hard objects) loose in the passenger compartment or behind the headrests. These articles should be placed in the glove box, on the floor, in the stowage net or in the rear cargo area, firmly secured (wherever possible).



Sunglasses holder (if fitted)

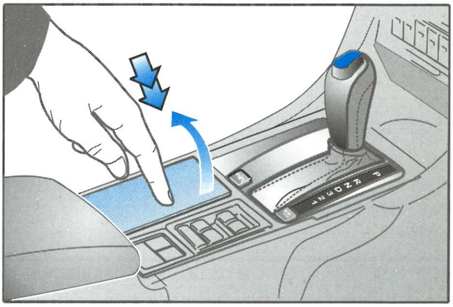
The sunglasses holder is located centre-front of the roof's interior. It is designed to accommodate one pair of sunglasses and uses a push-push mechanism for opening and closing. Push once on the surface of the cover to open the sunglasses holder, then push once again to close it.



GLOVEBOX, STORAGE COMPARTMENTS AND CONSOLE cont.

Telephone stowage

A removable telephone stowage tray fits above the cup holder bin (refer to page 3-26) forward of the centre console. The telephone stowage area provided with higher luxury model vehicles is fitted with a 'push-push' lid which may be opened or closed by pushing once on the lid surface.



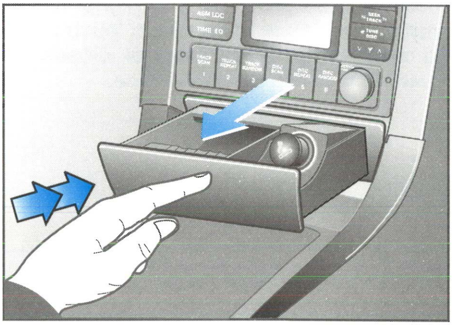
ASHTRAY, LIGHTER AND POWER SOCKET

Ashtray and lighter option

If required, your vehicle can be fitted with an ashtray and lighter instead of front and / or rear storage compartments.

Your Holden Retailer can order and fit the ashtray and lighter for you.

Ashtray (if fitted)



The ashtrays are fitted with a 'push-push' cover. To use the ashtray, push the cover inwards and the ashtray will simply slide open.

The ashtray may be removed for cleaning. To do this, open the ashtray and then grip the receptacle at the figure depressions located on each side. Then simply pull the receptacle out.

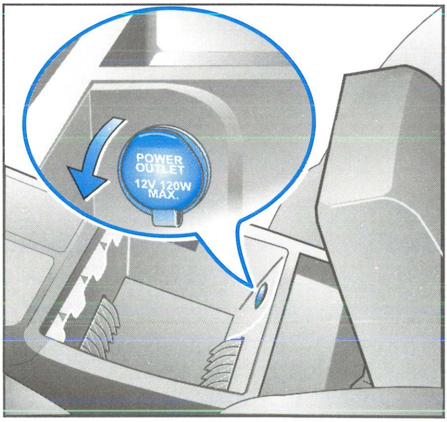
Cigarette lighter (if fitted)

The cigarette lighter is housed inside the ashtray assembly and can be operated whenever the ignition is turned to ON.

Press in the lighter knob; when the element is hot, the lighter automatically pops out and is ready for use.

Note: The cigarette lighter should not be used as a power socket. Use the power socket provided inside the centre console.

Power socket



All vehicles are have a power socket located inside the centre console.

The power socket is operational when the ignition is turned to either ON or ACC.

Note: Any accessory device (mobile phone, car fridge etc.) connected to the power socket must not exceed a current draw of 10 amps.

WARNING:

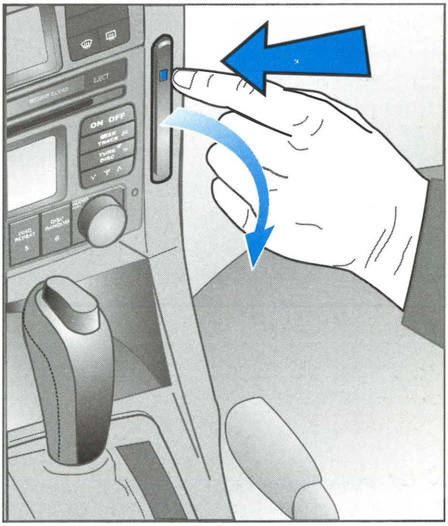
It is dangerous for the driver of a vehicle to attach or remove accessories from the power socket whilst driving. It may distract the driver's attention, putting the occupants of the vehicle and other road users at risk.

CUP HOLDERS

Front cup holders – dashboard (if fitted)

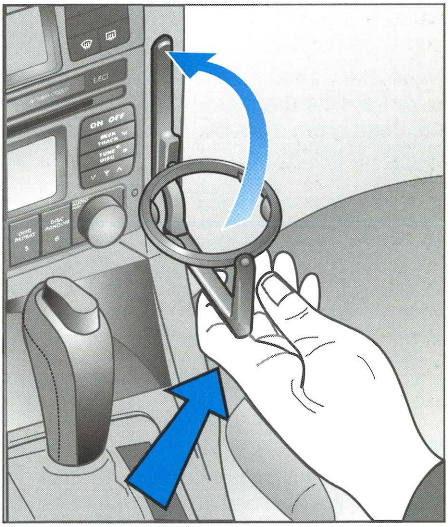
Higher luxury model vehicles are fitted with cup holders that are stowed in the dashboard, either side of the radio.

To open, push once on the surface of the cup holder mechanism as shown.



To close, gently raise the cup holder from beneath its base and push it back into the stowed position as shown.

Note: The circular rim of the cup holder rotates automatically to the open (horizontal) or closed (vertical) positions, as required.



WARNING:

Do not forget full cups when accelerating and braking! To avoid spillage, it is recommended that any cups placed in the holders have lids.

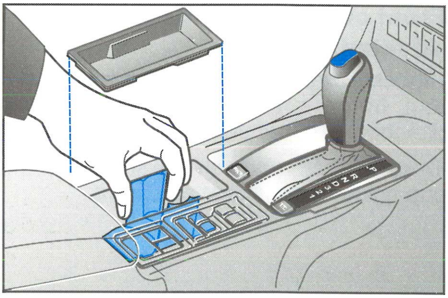
Cup holders are designed for holding standard size soft drink cans and smaller size bottles. Larger drink bottles or cups should not be forced into the cup holders, or they may become jammed.

CUP HOLDERS cont.

Front cup holders – centre (if fitted)

The centre cup holders are located forward of the centre console. The cup holder bin may be covered by a telephone storage tray (if fitted) which is removable to allow access to the cup holders.

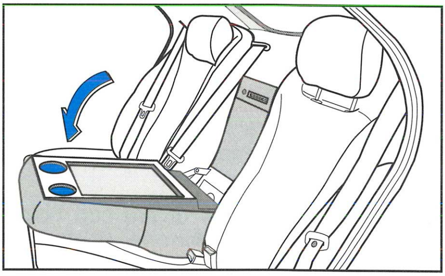
The rubber cup holder lining can be removed for cleaning by grasping the centre point of the lining and pulling it upwards.



Rear cup holders (sedan only)

All sedan models are fitted with a fold down section in the centre of the rear seat. Cup holders are fitted to the underside of the fold down section.

Note: Care should be taken to remove all cups from the rear holders before returning the fold down section of the seat to its upright position.



WARNING:

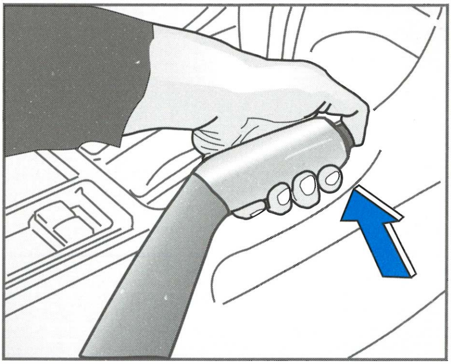
Do not forget full cups when accelerating and braking! To avoid spillage, it is recommended that any cups placed in the holders have lids.

Cup holders are designed for holding standard size soft drink cans and smaller size bottles. Larger drink bottles or cups should not be forced into the cup holders, or they may become jammed.

PARK BRAKE, FOOTREST, ASSIST GRIPS AND FUEL FILLER RELEASE

Park brake

The park brake lever is located between the front seats.



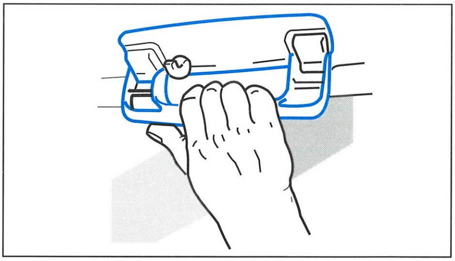
- To apply, pull the lever straight up, without pressing the release button. To release, pull the lever slightly upwards, push in the release button on the end of the lever and whilst depressed, lower the lever all the way down.
- When the ignition switch is turned to ON, a symbol on the instrument panel indicates that the park brake is applied.
- NEVER drive the vehicle with the park brake applied.
- If you attempt to drive off without releasing the park brake a warning chime will be heard.

Footrest

The footrest for the driver's left foot is adjustable to three positions. First undo the two screws on the right hand side of the footrest. Move the footrest forward or backward as required, then replace the screws. See your Holden Retailer for assistance with this adjustment if necessary.

Assist grips

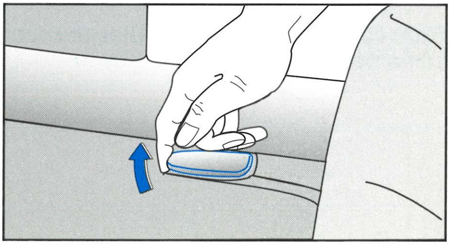
Assist grips are provided above the doors. When released, they will spring back into their stow position against the roof.



Fuel filler release (sedan and wagon)

Pull up the release lever on the floor, to the right of the driver's seat to open the fuel filler cover.

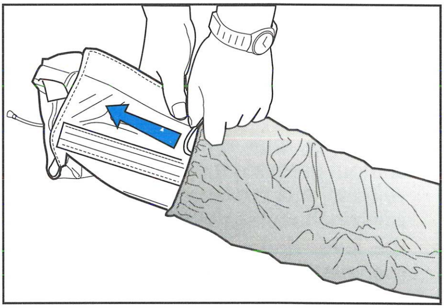
Refer to Chapter 5 when refuelling.



TONNEAU COVER – UTILITY (if fitted)

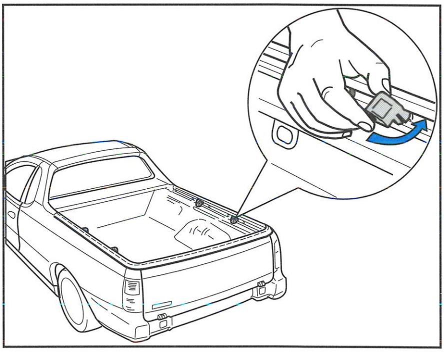
Installing the tonneau cover

Remove the contents of tonneau cover bag.



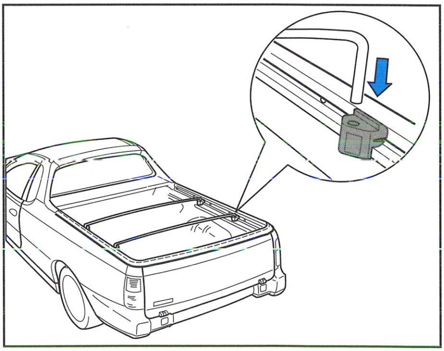
Installing bows

Your vehicle is supplied with two bows and four bow attachments. Bow attachments will normally remain on the vehicle. However, if the bow attachments have been removed, they can be reinstalled by tilting and clipping into place as shown. There are notches in the upper rails to assist you with correct placement of the bow attachments.



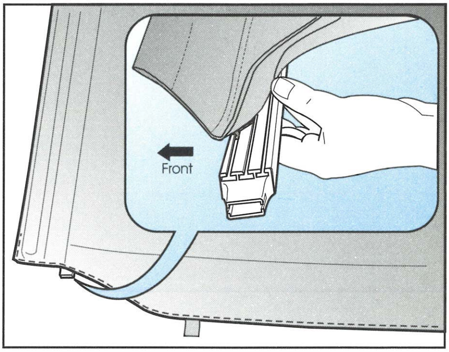
The front and rear bows are different lengths; the front bow being the longer of the two.

Slide each bow though the holes provided in the bow attachments, as shown.



TONNEAU COVER cont.

Fitting tonneau cover to front bar



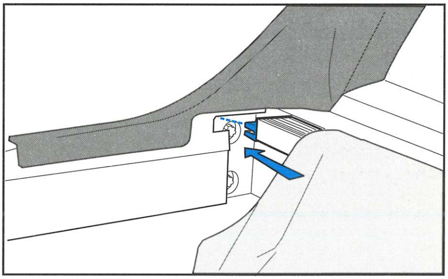
Normally, the front bar would remain attached to the tonneau cover. However, if the bar has been removed, it will need to be attached before the tonneau cover is fitted to the vehicle.

Lay the tonneau cover flat to identify the front edge, which is cut away, as shown.

Thread the bar through one of the three slots provided along the front edge of the tonneau cover.

Note: When the tonneau cover is new the centre slot should be used. As the tonneau cover ages the other slots may be used to achieve a tighter or looser fit, as required.

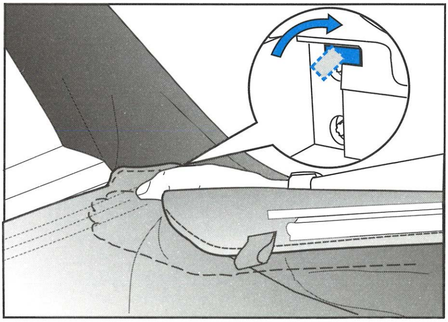
Fitting tonneau cover to your vehicle



Place the tonneau cover roughly in position over the tray. First, the bar should be fitted into the slots at the front.

Fold the tonneau cover magnetic strip backwards.

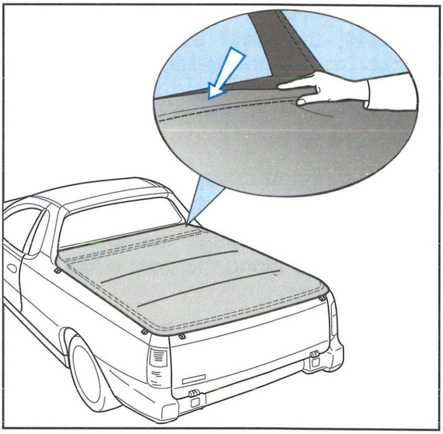
Fit one end of the bar into either the left-hand or right-hand slot.



Then, from underneath the tonneau cover, move the other end of the bar into the opposite slot by tilting up and pulling it into place.

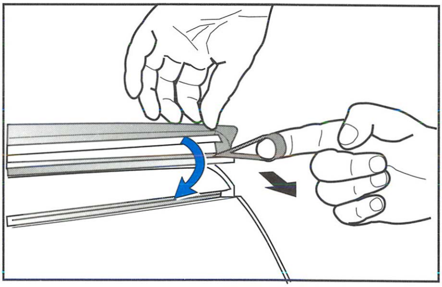
TONNEAU COVER cont.

Fold the magnetic strip forwards.



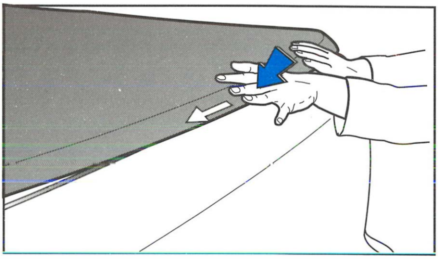
Lay the tonneau cover over the bows.

Starting from the rear, use the finger loops to pull the tonneau cover plastic strip over the slot provided in the vehicle.



Push down with your hand to smooth the rear strip into place along the slot.

After the tonneau cover is attached at the rear, the same attachment method is used on both sides.



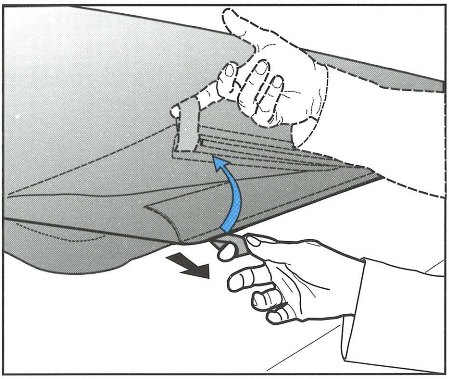
TONNEAU COVER cont.

Removing tonneau cover

Using the finger loops provided, remove the tonneau cover as shown.

The bows can then be removed by pulling straight up.

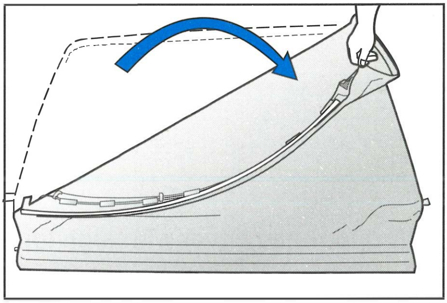
For your convenience the bows and tonneau cover can be folded and stored in the bag provided.



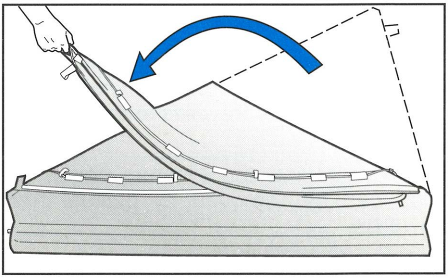
Folding

Lay the tonneau cover flat, top side up.

Fold the bottom corner up to form a triangle.



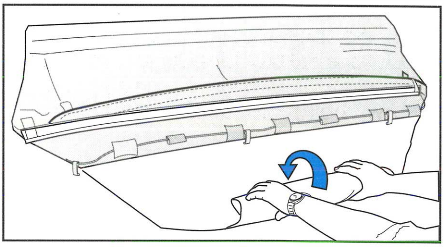
Fold the other bottom corner up to form a smaller triangle.



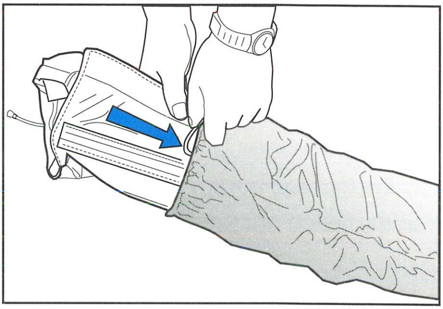
TONNEAU COVER cont.

Roll up the tonneau cover, starting from the point of the triangle.

Note: Folding and rolling in this way ensures that the plastic sides are not bent.



Place the folded tonneau cover and bows in the bag provided.



Fitting tonneau cover with high loads

The tonneau cover can be adjusted for higher loads.

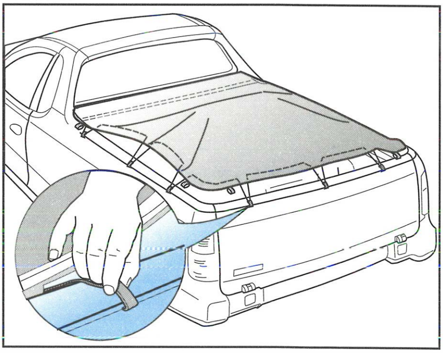
Remove the two bows if required.

Attach the front of the tonneau cover (refer to page 3-29 for details about fitting the tonneau cover).

Lay the tonneau cover roughly in position.

Underneath the tonneau cover there is a cord with attaching clips. Working around the vehicle, place the clips in the slots, as shown.

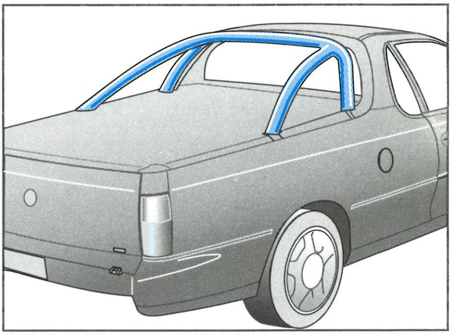
When removing the tonneau cover, the clips can be removed by pulling them upwards.



SPORTS BAR – UTILITY

Sports bar (utility – if fitted)

Note: The sports bar is an appearance item only. It does not provide additional protection in an accident and should not be used as a tie down point for loads.



CHAPTER 4

Driving

Page

4-2 Safety
4-3 Engine starting
4-4 Automatic transmission
4-7 Manual transmission
4-8 Anti-lock brake system
4-9 Traction control
4-11 Driving precautions
4-11 Running-in
4-13 Add on equipment, including snow chains, mud flaps, insect screens, driving lights and roo bars

SAFETY

Before entering the vehicle

1. Check that windows, mirrors and lights are clean.
2. Visually check tyre inflation (check with a pressure gauge each week).

Before driving off

1. Be sure that all doors are closed and secured.
2. Position your seat for comfortable driving.
3. Adjust rear vision mirrors.
4. FASTEN SEAT BELTS.
5. Check that all the warning indicators light up when you turn the key to start the engine, refer to Chapter 1.

Parking

1. Apply the park brake.
2. Automatic transmission: Place in P (park).

   Manual transmission: If pointing uphill or on flat ground place in FIRST gear.
   If pointing downhill place in REVERSE gear.
3. Shut all windows.
4. Turn ignition key to LOCK and remove the key.
5. Lock all doors by pressing the LOCK button on key when outside the vehicle.
6. Set deadlocking, refer to Chapter 2.

Note: The engine fan may keep going for several minutes after the ignition has been turned off. This is normal.

WARNING:

Be careful where you park or drive. As with any vehicle, do not park or operate this vehicle in areas where combustible materials such as dry grass or leaves can come in contact with a hot exhaust system.

Never leave the engine running in an enclosed space such as a closed garage or underground car park.

ENGINE STARTING

1. Ensure the park brake is firmly applied and release it only after you have started the engine and are ready to drive off.

2. Manual: Press the clutch pedal and shift the gear lever to Neutral position. The clutch pedal can now be released.

   Automatic: Move the shift lever to P (park) or N (neutral) position. The engine will not start if it is in any other position.

3. Start the engine as outlined below (with your foot off the accelerator).

For cold or hot starting the procedure is the same. Simply turn the key to the start position and release when the engine starts.

YOU DO NOT HAVE TO PRESS THE ACCELERATOR PEDAL PRIOR TO, OR DURING, STARTING. PRESSING THE ACCELERATOR PEDAL WILL ONLY INCREASE CRANKING TIME AND WILL NOT HELP THE ENGINE TO START.

You should not subject the engine to high load conditions such as full throttle acceleration or high speeds until it has completely warmed up otherwise you may cause premature engine wear or engine damage.

Engine will not crank or start

- PRESS AND RELEASE THE UNLOCK BUTTON ON THE KEY and try starting the engine again.
- NEVER PRESS THE KEY BUTTONS WHILE CRANKING THE ENGINE.
- Remove the key from the ignition, re-insert the key and try starting the engine again.

Flooded petrol engine

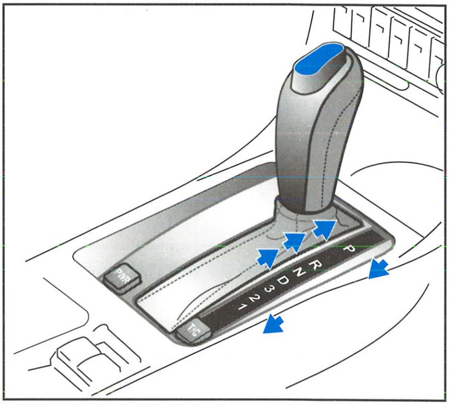
Cranking the engine for a lengthy period without it starting could result in flooding (too much fuel injected into the engine). If this occurs, press the accelerator down to the floor and hold it there while holding the key in the START position.

When the engine starts, allow the accelerator pedal to come up slowly.

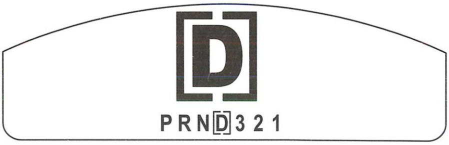
AUTOMATIC TRANSMISSION

Floor mounted shift

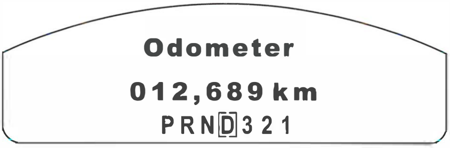
Push in the button on top of the transmission selector lever when shifting into any position indicated by the blue arrow.



When the position of the transmission selector is changed, a large symbol is illuminated on the instrument panel centre display in conjunction with the PRND321 constant icon at the bottom of the display. The brackets around the gear letter move according to what gear is selected on the gear selector.



The large symbol remains for 2 seconds after the gear is selected. While the square around the smaller constant icon moves in conjunction with the selector as it passes through the gear positions.



Note: If any warnings are active on the display, the large symbol will not been shown and only the bracketed constant icon at the bottom of the display changes when the selector is moved.

WARNING:

- Do not press the accelerator pedal with the brakes on in either 1, 2, 3, D or R. This will overheat the transmission.
- Do not use the accelerator pedal to hold the vehicle on a slope. Use the brakes.
- Do not coast the vehicle in N – this lessens your control and you may need to accelerate quickly in an emergency.

Notes: 1. Refer to Chapter 7 when checking automatic transmission fluid level.

2. The engine will not start unless the selector is in P (park) or N (neutral).

AUTOMATIC TRANSMISSION cont.

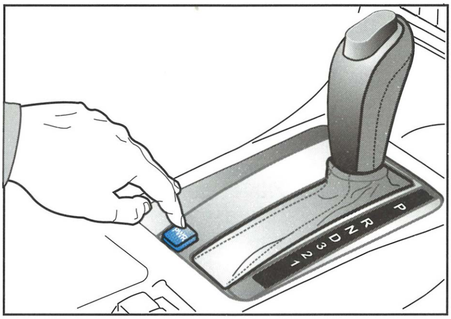
Power / normal / cruise mode

The transmission operates in three modes: POWER, NORMAL and CRUISE (if cruise control fitted).

POWER mode has revised automatic transmission shift points, to give the vehicle a more responsive feel.

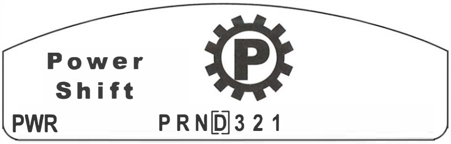
NORMAL mode is recommended for normal or freeway driving, as it gives better fuel economy.

CRUISE mode is active when the cruise control is maintaining the vehicle speed. The transmission overrides the POWER / NORMAL selection and operates in CRUISE mode, providing optimum driveability. CRUISE mode is neither a POWER or NORMAL pattern and the PWR icon switches off when the cruise control is maintaining vehicle speed.

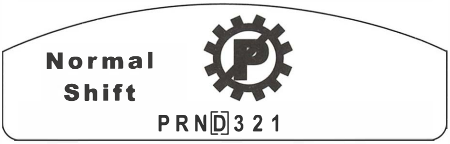


The PWR button is located on the passenger's side of the transmission selector. Press the PWR button next to the transmission selector to place the transmission in POWER mode. Press the PWR button again to select NORMAL mode.

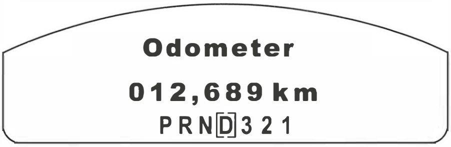
The 'Power Shift' animated symbol and small PWR icon are displayed when POWER mode is selected. After 2 seconds the animated symbol reverts to the original trip computer display with a small PWR icon on the left.



When NORMAL mode is selected (POWER mode off), the PWR icon extinguishes immediately and the 'Normal Shift' animation is displayed. After 2 seconds the animated symbol reverts to the original trip computer display.



Personal Identity Keys on higher luxury levels: when the key is inserted in the ignition and turned to ON the system identifies the key and sets the POWER / NORMAL selection to the last adjustment used for that key. Also refer to 'Personal Identity Keys' in Chapter 2.



AUTOMATIC TRANSMISSION cont.

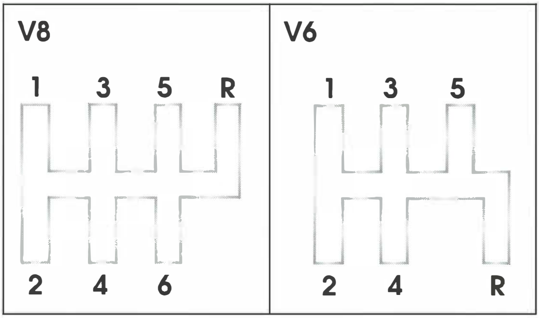
P (park)	This prevents the rear wheels from turning and so should be selected (together with the park brake) when leaving the vehicle. Never select P while your vehicle is still moving. The engine can be started in this position.
R (reverse)	Never select R while your vehicle is still moving. Reverse lights will operate when R is selected and the ignition is on. After reversing, make sure the vehicle has fully stopped before selecting another gear position. After selecting R, pause for a moment before accelerating, to allow the transmission to 'engage' reverse gear.
N (neutral)	This is the out-of-gear position. You may then start a stalled engine while the vehicle is still moving or stopped.
D (drive)	This is the most effective position for normal or freeway driving. The drive position gives maximum fuel efficiency, as the transmission can choose the appropriate gear (1 through to 4) for the existing load and driving conditions. After selecting D from P or N, pause for a moment before accelerating, to allow the transmission to 'engage' the forward gear. Use this position, together with the PWR mode when towing.
3 (third)	Third is most effective when overtaking and gives responsive acceleration and deceleration, especially in hilly areas. This position allows the transmission to shift between first, second and third gear as conditions require. Drive (4th gear) is excluded.
2 (second)	Use this position when going down a moderate gradient where you want to slow down a little with minimal use of the brakes. The transmission shifts to first or second gear as required. Move the lever back into the drive position to return to normal driving.
1 (first)	Use this position when strong braking effect is needed on a steep gradient, below 60 km/h. Remember to move the lever back to drive position so that the transmission again upshifts into higher gears. Even though the transmission gear selector may be in 1, the transmission does not select first gear until vehicle speed is less that 55 km/h. Take extreme care when selecting 1 if towing a trailer or caravan on a steep incline. Even though the transmission gear selector may be in 1, the transmission upshifts automatically to second gear at about 5,400 rpm.

MANUAL TRANSMISSION

Shift patterns

The shift pattern illustrated, is also found on the top of the gear shift lever.

When selecting REVERSE gear you must shift the gear lever sideways against spring pressure in order to pass into the gear.



Shift speeds

The chart shows the recommended change speeds at which gear changes should be made for normal driving. Using shift speeds in the 'economy' category will assist in maximising fuel economy.

Upshifting at road speeds will be necessary according to varying driving conditions such as load, road gradient, during overtaking and when other than light acceleration is required.

Manual transmission change speeds (km/h)

Gear change	V6 engine		V8 engine	
	Economy	Normal	Economy	Normal
1st~2nd	15	25	15	25
2nd~3rd	25	45	25	35
3rd~4th	40	60	35	48
4th~5th	55	85	50	65
5th~6th	N/A	N/A	70	80

Operating notes

- When shifting from one gear to another, be sure to press the clutch pedal fully to avoid clashing and possible chipping of the transmission gears.
- Never attempt to engage reverse gear while the vehicle is still moving. A slight pause between pressing the clutch pedal and moving into reverse gear is desirable to allow all the rotating components to stop and avoid gear clashing. Whenever reverse gear is selected with the ignition ON, the reversing lights operate.
- Shift the gear lever with a moderate effort to allow time for the transmission synchromesh to work properly.
- To avoid damage to the clutch, do not drive with your foot resting on the clutch pedal.
- When stopped on an incline, do not hold the vehicle by slipping the clutch. Use the park brake or foot brake.
- When climbing steep grades, change down to a lower gear before the engine starts to labour. To maintain safe speeds on a steep downgrade and to reduce brake wear and overheating, shift into a lower gear before starting the descent.
- Do not over speed the engine when shifting down to a lower gear.
- 4th gear provides direct drive and 5th gear, overdrive.

ANTI-LOCK BRAKE SYSTEM

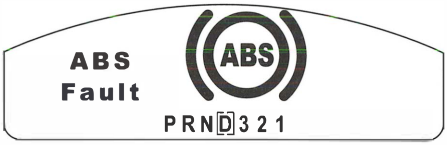
Anti-lock Brake System (ABS) is in addition to your vehicle's normal brake system. It prevents the wheels from locking up when braking, irrespective of the road conditions and tyre grip. It starts to regulate the braking as soon as a wheel shows a tendency to lock. The vehicle remains steerable, even in the event of panic braking, for instance on bends or when swerving to avoid an obstacle.

Maximum braking is provided for each wheel, up to the point where it would lock. This means that steering control is retained.

In an emergency braking situation, the driver should keep full force on the brake pedal, without 'pumping' the brake pedal. 'Pumping' the brake pedal can reduce brake efficiency when ABS is controlling the braking.

DO NOT let this special safety feature tempt you into taking risks when driving. Traffic safety can only be achieved by adopting a responsible driving style. Your speed should always be adjusted to suit road and traffic conditions.

The instrument panel provides an ABS OFF warning light below the temperature gauge and an 'ABS Fault' animation via the centre display. To check that the bulb is working, the (ABS) light comes on for a few seconds when the ignition is turned on. If the (ABS) symbol and 'ABS Fault' animation illuminate when driving, a malfunction of the Anti-lock Brake System is indicated and you should see your Holden Retailer. The vehicle's brake system will still operate conventionally, only the anti-lock operation is impaired.



The 'ABS Fault' animation is displayed until the MODE button on the trip computer switch is pressed. Whereas, the (ABS) symbol will remain illuminated until the problem is rectified.

When your vehicle is in a critical braking condition ABS makes itself noticeable through pulsing of the brake pedal and the noise of the regulation process, thereby reminding you to match your speed to the road conditions, even though it is keeping control of the braking.

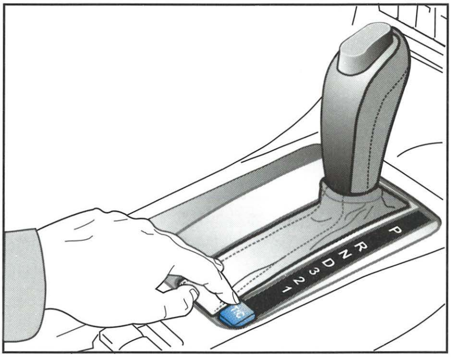
The ABS system performs a self check each time the vehicle is driven. This can sometimes be heard as well as felt, as pulsing, through the brake pedal.

TRACTION CONTROL (if fitted)

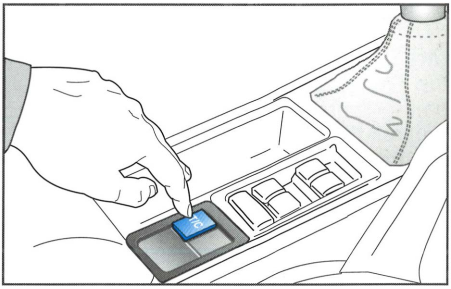
Traction control helps prevent the driving wheels (rear) from spinning. As soon as even one driving wheel starts to spin traction control reduces the power from the engine and applies the brakes, as necessary. This improves the vehicle's stability, particularly on snow and ice, as well as on wet or slippery roads.

The T/C button is located on the driver's side of the centre console.

Traction control helps you to keep control of the vehicle and reminds you to match your speed to the road conditions. However, do not let this special safety feature tempt you into taking risks when driving. Traffic safety can only be achieved by adopting a responsible driving style.

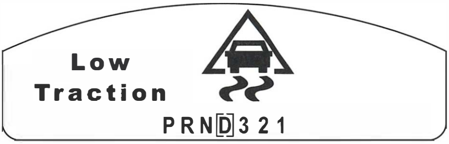


T/C button – automatic transmission

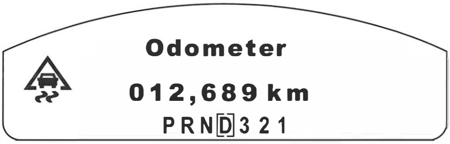


T/C button – manual transmission

The 'Low Traction' animation on the instrument panel centre display illuminates when traction control is controlling wheel spin, indicating that the vehicle is now in a critical situation. In addition, if the vehicle has a V8 engine, traction control, when activated, provides feedback to the driver by pulsing the accelerator pedal.



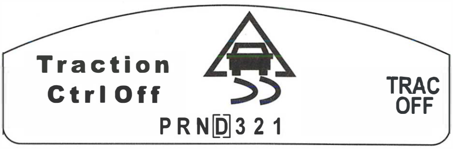
The 'Low Traction' animation is displayed until the MODE button on the trip computer switch is pressed. The animated symbol then reverts to the original trip computer display with a small low traction symbol on the left. The symbol will remain as long as the low traction situation exits.



TRACTION CONTROL (if fitted) cont.

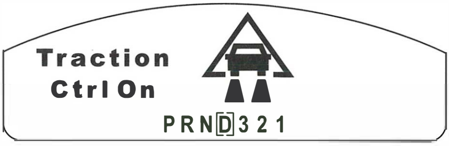
Traction control is automatically turned on whenever the ignition is turned from off to on.

Pressing the T/C button switches the system off, bringing up the 'Traction Ctrl Off' animated display. After 2 seconds, the animation reverts to the original trip computer display with a small TRAC OFF icon on the right.



If the 'Traction Ctrl Off' animation does not illuminate when the button is pressed, or if it comes on during driving, a fault is indicated in the system and traction control is no longer operational. You should contact your Holden Retailer.

Pressing the T/C button again switches the system on, bringing up the 'Traction Ctrl On' animated display. After 2 seconds, the animation reverts to the original trip computer display.



In certain circumstances where slippage of the driving wheels is desired, it may be helpful to disable the traction control system. For example, in some circumstances, particularly on steep gravel inclines, or if the vehicle is bogged, it may be possible to get more traction from a slightly spinning wheel. **In addition, whenever snow chains are fitted, the traction control system should be turned off.** This is achieved by pressing the T/C button. The 'Traction Ctrl Off' animation then illuminates to show that traction control is no longer operational. After 2 seconds the animated symbol then reverts to the original trip computer display with a small TRAC OFF symbol on the right. The system can be switched on again by pressing the T/C button or when the ignition is next turned on.

WARNING WITH V6 ENGINE ONLY:

The traction control system can take up to 3 minutes to warm up if the outside temperature is low and the engine is cold.

On cold days the traction control system initially provides braking to reduce wheel spin. As soon as the engine starts to warm up the traction control system also reduces engine power if the wheels start to spin. The colder the day the longer this will take.

Owners should use caution when starting a vehicle in cold conditions and on road surfaces that offer poor traction, e.g., starting the vehicle on a cold morning and driving on a slippery surface.

WARNING:

LPG and Traction Control are incompatible. If the vehicle is fitted with a Holden approved LPG system, by Holden or by a Holden authorised LPG fitter then Traction Control will automatically be switched off when the vehicle is running on LPG, indicated by the TRAC OFF light on the instrument panel illuminating.

DRIVING PRECAUTIONS

Running in

These days, there is no need to follow a formal running-in schedule. However, by observing a few simple precautions during the first few hundred kilometres of driving you will greatly assist your vehicle's future performance and economy.

For the first 500 kilometres avoid using heavy acceleration. Also, if your vehicle is fitted with LPG, it is recommended that the vehicle be run on petrol for the first 500 km rather than LPG.

Up to 1,500 kilometres avoid driving at any one speed, either slow or fast, for any length of time. Therefore, avoid using the cruise control (if fitted) while 'running-in'. However, include some higher speeds during this period. Always drive at moderate speed until the engine has completely warmed up.

It is best to drive your new vehicle for 1,500 km before towing a load. If you must tow before this do not exceed 80 km/h. The same applies if you have a new or reconditioned engine, transmission or rear axle.

Engine misfire warning

Reduce speed and do not tow a caravan or trailer until the misfiring is corrected at the nearest Holden Retailer. Otherwise, the catalytic converter and exhaust system may overheat, resulting in vehicle damage.

Brakes

The power assisted brakes fitted to your vehicle use vacuum from the engine when it is running. Therefore, never let the vehicle run down hills with the engine off, or coast after switching the engine off.

Your seat should be positioned so that you can push the brake pedal easily. Nothing should be under the brake pedal which could limit pedal travel, for instance, poorly fitting floor mats.

Consistent, heavy use will shorten the life of the brake pads.

Power steering

The power assisted steering fitted to your vehicle has been designed to reduce steering effort. Care should be taken not to hold the steering wheel fully turned when stationary (i.e., when waiting before turning a corner, etc.) as this creates high operating temperatures and pressures within the system.

If power assistance for the steering is not working, due to the engine stalling etc., the vehicle can still be steered. However, due to the much greater effort required to steer, it is recommended that you have the problem fixed promptly.

Loading the vehicle

Loading the vehicle changes the mass distribution and therefore the handling when driving. Likewise, fitting LPG to your vehicle changes the mass distribution. After loading the vehicle or fitting LPG, extra care should be taken to become familiar with the vehicle's driving feel.

DRIVING PRECAUTIONS cont.

Loose articles

Do not leave loose articles or luggage in the passenger compartment. Whenever possible, stow articles in the luggage compartment. For wagons, loads stowed in the luggage area should be firmly secured.

Mobile phones and CB radios

Mobile phones and CB radio equipment, which use an integrated antenna, may temporarily affect the vehicle's electronics (permanent damage is unlikely) when used inside the vehicle, due to the interference created when transmitting.

Therefore, mobile phones and CB equipment that use an antenna fitted to the outside of the vehicle should be used whenever possible.

If phones or CBs with an integrated antenna *must* be used inside the vehicle, avoid using near the dashboard area, as some functions may be affected.

Water crossing

Before crossing water it is recommended that air conditioning be switched off.

Crossing deep water could damage the engine. It is recommended that the water depth be no more than 175 mm and speed be limited to a walking pace. Brakes may then need drying out; lightly apply the brakes while maintaining a slow forward speed, with a clear area ahead, until brake performance returns to normal.

Tyre grip

A decrease in tyre grip occurs when water, snow, ice, gravel or other materials are on the road. Driving speed should be adjusted to the road conditions.

When driving on wet or slushy roads, it is possible for a wedge of water to build up between the tyre and road surface. This phenomenon, known as hydroplaning, may cause partial or complete loss of grip, which affects steering and braking. To reduce the possibility of hydroplaning:

- Reduce speeds during rainstorms.
- Replace tyres when tread wear indicators are visible.
- Regularly check that tyres are properly inflated.

ADD ON EQUIPMENT

Snow chains

Due to lack of clearance, snow chains cannot be fitted to vehicles equipped with the following wheel and tyre configurations:

225/50R16	92V	16 x 7
235/45R17	93V	17 x 8
235/40R18	91W	18 x 8

If these vehicles need to be driven in the snow, the owner should consider changing to the following wheel and tyre configurations:

P205/65R15	95H	15 x 6	(for V6 engines only)
215/60R16	95V	16 x 7	(for V8 and V6 engines)

Snow chains should be fitted only on the rear (drive) wheels.

Depending on design, large hub caps may contact parts of the chain. If so, remove the hub caps. Any valve extensions should also be removed.

Snow chains may only be used at speeds up to 50 km/h. Snow chains should only be used for short distances if the roads are not snow covered. The hard road surface causes rapid wear and the chain may break.

Snow chain links should not be thicker than 13 mm and the clasp should be well away from sheet metal. Thicker chains may damage the vehicle body.

Ensure that tyre pressures are as recommended on the tyre placard.

Mud flaps

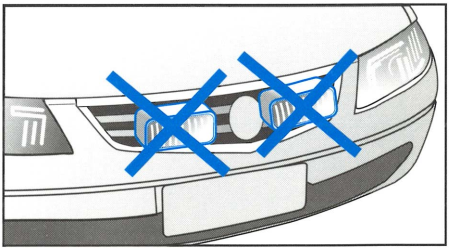
Mud flaps should be fitted if the vehicle is driven extensively on unsealed roads.

WARNING:
Care should be taken when reversing to avoid trapping a mudflap between a tyre and a gutter.

Fitting driving lights, insect screens

When fitting these accessories be careful not to restrict air flow otherwise engine overheating and / or poor air conditioning performance may result.

Nothing should be fitted over the upper or lower air intakes at the front of the vehicle, as this could affect engine cooling.



ADD ON EQUIPMENT cont.

Fitting roo bars

If a roo bar is to be fitted, it is critical that the Holden approved roo bar be used. Other types ***must not*** be fitted. The Holden roo bar is available from your Holden Retailer and has been compatibility tested with the vehicle's design, including the Holden air bag system.

Fitting other types of roo bars may affect crash performance, air bag performance and engine cooling.

Roo bars should not be fitted to vehicles operating in suburban areas, as they increase the risk of injury to a pedestrian in the event of a collision. Roo bars are only recommended for country / outback areas, where additional protection from straying animals is required. Please remember that defensive driving and limiting driving speed to the road conditions is always the best approach, particularly where road side signs indicate wildlife is abundant.

NOTES

CHAPTER 5A

Fuel

Page

5A-2 Carbon monoxide caution
5A-3 Petrol filling
5A-3 Fuel tank capacity
5A-4 Emission control
5A-5 Reducing fuel consumption
5A-6 Measuring fuel consumption

If your vehicle is converted to gas refer also to Chapter 5B LPG.

PETROL

EXHAUST WARNING - CARBON MONOXIDE POISONING

Exhaust gases can produce carbon monoxide, a dangerous gas, which can cause unconsciousness and even death to both humans and animals.

You could inhale the gases if the exhaust system on your vehicle is faulty.

To protect against exhaust gases entering the vehicle, the exhaust system and body should be inspected:

- each time the vehicle is serviced,
- whenever a change is noticed in the sound of the exhaust system,
- whenever the exhaust system, underbody or rear of the vehicle is damaged.

Take the vehicle to your Holden Retailer if you think your vehicle needs inspecting for any of the above reasons.

DO NOT SIT (OR LEAVE CHILDREN OR PETS) IN A PARKED VEHICLE FOR ANY EXTENDED PERIOD OF TIME WITH THE ENGINE RUNNING. DO NOT RUN THE ENGINE IN AN ENCLOSED AREA (SUCH AS THE GARAGE) ANY LONGER THAN IS NEEDED TO MOVE THE VEHICLE.

Sedan and Wagon: Driving with the boot or tailgate open is not recommended. If you must travel with the boot or tailgate open, close all windows, ensure that the heater controls are set to outside (rather than recirculate) with air directed to the face and the fan on the highest speed. Do not exceed 50 km/h unless necessary.

PETROL CAUTION:

- Petrol is extremely flammable and highly explosive.
- Always turn off the engine of your vehicle and any mobile phones when refuelling.
- Do not smoke or allow open flames or sparks near the vehicle when refuelling.
- Utility – never fill a portable fuel container in or on a vehicle fitted with a plastic moulded cargo liner, as static electricity can ignite the fuel vapour. Always place the container on the ground and keep the fuel nozzle in contact with the container at all times while filling,
- If petrol fumes are smelt while driving, the cause should be found and corrected without delay.

Petrol – general

The use of any fuel, other than the fuel specified on the following page, may seriously damage the engine of your vehicle and may void your Warranty. Only clean petrol of good quality should be used.

Petrol tanks should always be filled at the intermediate or fast fill rate. Do not add any more petrol after the petrol filler first clicks off or petrol blows back – as this allows room for the petrol to expand inside the tank.

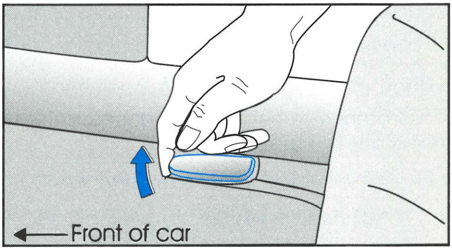
It is only permissible to 'trickle fill' petrol tanks when the vehicle is to be driven for more than 50 km straight after the tank is filled. However, this is not recommended on days over 30°C.

Wipe off any overflowing petrol immediately from the vehicle; spray or splash with water (replace the petrol cap and close the fuel opening before spraying with water).

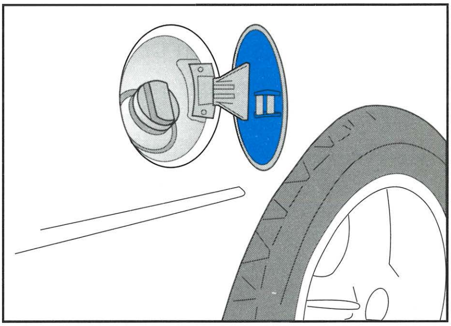
PETROL cont.

Fuel filler flap release – sedan and wagon

Pull up the release lever on the floor (to the right of the driver's seat) to release the fuel flap.

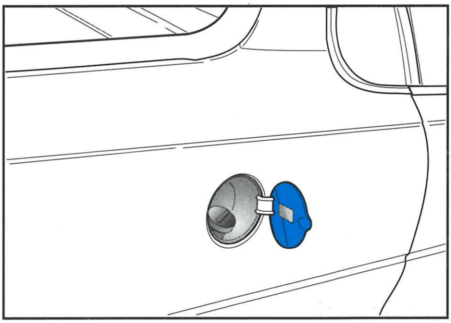


Open the fuel flap from outside the vehicle.



Fuel flap – utility

Open the fuel flap from outside the vehicle, on the right-hand side.



Petrol cap

The petrol cap (under the fuel flap) is a screw-on, ratchet type. After refilling, tighten the cap clockwise until a clicking noise is heard and then close the fuel flap.

Tank capacity

Both sedans and wagons have 75 litre fuel tanks.

Utilities have 70 litre fuel tanks.

Supercharged engines

The supercharged engine is designed to run most efficiently, for performance and fuel consumption, on premium (95 octane) UNLEADED petrol. However, it will perform satisfactorily on regular (91 octane) UNLEADED petrol.

WARNING:

Vehicles fitted with a supercharger should never be converted to LPG.

Non-supercharged engines

Use UNLEADED PETROL of 91 octane rating, or higher. High octane unleaded petrol ('Premium' etc.) may be used, but is not required by your vehicle.

EMISSION CONTROL

Your vehicle is fitted with emission control systems which are designed to reduce the amount of hydrocarbons (HC), carbon monoxide (CO), and oxides of nitrogen (NOx) that are emitted from the engine and fuel system into the atmosphere. Hydrocarbons and oxides of nitrogen, when exposed to sunlight under certain conditions, contribute to photochemical smog. In addition, carbon monoxide is toxic when it becomes highly concentrated in the air.

The three major emission control systems fitted to your vehicle are:

1. **Evaporative Emission Control System** (Australian vehicles only)

   This system is designed to prevent the escape of fuel vapour from the fuel system and recycle them through the normal combustion process.

2. **Crankcase Emission Control System**

   This system is designed to prevent blow-by gases from escaping into the atmosphere and recycle them through the combustion process.

3. **Exhaust Emission Control System**

   The various components of this system operate collectively to limit HC, CO and NOx emissions in the exhaust gas. The exhaust Emission Control System is comprised of components including electronic control of spark, fuel and idle speed. In addition, vehicles have a catalytic converter and closed loop mixture control system.

For detailed information on the operation, servicing and repair procedures for these systems, refer to your vehicle's service booklet and / or the emission label inside the engine compartment of your vehicle.

Owner responsibility

Vehicles sold and serviced within Australia have been designed to comply with Australian Design Rules and State Regulation emission requirements.

The engine, engine control system or exhaust system of the vehicle must NOT be modified in any way. Any change to the design may increase the emissions or otherwise defeat the intent of the regulations.

Any person who removes, modifies or hinders any part of the emission control system may be contravening Australian Design Rules, refer A.D.R. 28/01 (External Noise for Motor Vehicles) and A.D.R. 37/01 (Emission Control for Light Vehicles). It is also illegal to drive a vehicle modified in this way.

Maintenance requirements

To ensure continuing compliance with the regulations you must maintain your vehicle's emission control system as per your vehicle's service booklet, at the frequency shown in the Maintenance schedule of your vehicle's service booklet which is inside the glovebox of your vehicle.

It is recommended that the necessary servicing be performed by an authorised Holden Retailer who has the specialised servicing equipment and trained personnel available to ensure that the adjustments and services specified are carried out.

REDUCING FUEL CONSUMPTION

Engine

Maintain the engine in peak mechanical condition by having it serviced regularly in accordance with the Maintenance schedule in your vehicle's service booklet inside the glovebox of your vehicle. This will ensure items such as the spark plugs, air cleaner, engine idle speed etc. are maintained for minimum fuel usage and peak engine performance.

Tyre pressure

Keep the tyres at the recommended pressures. Under-inflated tyres create extra rolling resistance which contributes to increased fuel consumption, refer to Chapter 7.

Incorrect tyre pressures can also cause uneven and premature tyre wear.

Wheel alignment

Maintain correct front and rear wheel alignment. Incorrect alignment makes the wheels drag, which increases fuel consumption and causes uneven and premature tyre wear.

Warm ups and idling

Avoid long engine warm ups. They are unnecessary and waste fuel. An engine takes approximately 5 minutes to reach its efficient operating temperature and it does this most effectively when driving.

You should also avoid long engine idling. If your have to wait for more than a couple of minutes turn off the engine to conserve fuel.

Accelerating, driving and braking

Accelerate gently – avoid rapid starts, sudden bursts of speed and full throttle acceleration – they are certain fuel wasters.

Drive the vehicle at steady speeds where possible (after run-in). It is desirable to reach top gear as soon as possible, but under no circumstances should you force the engine to labour in top gear.

Riding the brake

Do not rest your foot on the brake pedal when you do not intend to brake, as this can overheat the brakes, increase brake pad wear, damage the brakes and waste fuel.

Air conditioning

Turn off the air conditioning when not required. However, once every 2 weeks, with the engine running, switch the air conditioner on for 5 to 10 minutes to lubricate seals (even in Winter).

MEASURING FUEL CONSUMPTION

Before checking

- Fuel consumption should not be judged until the engine has been 'run-in'. You should wait at least 1,500 km before checking fuel consumption.
- Please read information on the preceding page regarding fuel consumption.
- Find a petrol station and petrol pump that will be convenient to use for the next few tank fills. This is necessary due to variations in pumping speeds between petrol pumps and petrol stations.

To check fuel consumption

1. Reset the tripmeter in the trip computer to zero. Refer Chapter 1 if unsure how.
2. Fill the fuel tank until the petrol pump first clicks off.
3. At the time of the next refill return to the same petrol station and petrol pump.
4. Record the distance travelled on the tripmeter and again reset the tripmeter to zero.
5. Fill the fuel tank until the petrol pump first clicks off.
6. Record the amount of petrol added to the tank from the petrol pump.

Calculating

1. Multiply the amount of petrol by 100, then divide the result by the kilometres driven.

   The answer is the 'litres per 100 kilometres' consumption rate.

   e.g. 43.8 litres used, 476.3 km driven: $\frac{43.8 \times 100}{476.3}$ = 9.2 litres per 100 km

2. Repeat this procedure three to five times, to get an average reading. This will take account of variables such as load, weather conditions and city / highway driving.

CHAPTER 5B

LPG

Page

5B-2 About LPG
5B-2 Fuel tank capacity
5B-3 Regulations
5B-4 Safety
5B-4 Accident or fire
5B-4 Leaks
5B-7 Refuelling
5B-8 Changing over fuel
5B-9 Fuel gauge and warning / reminder indications

Warning: Vehicles fitted with a supercharger should never be converted to LPG.

ABOUT LPG

What is LPG?

LPG is an abbreviation for Liquefied Petroleum Gas, which is a mixture mainly of Propane and Butane, the same as is commonly used for gas barbecues and gas lanterns.

LPG is obtained as a by-product from natural gas and oil production and is lead free.

Power

Because of the nature of LPG, a minimal loss of power may be experienced under heavy acceleration. Do not be concerned, this is expected and quite normal.

Fuel costs

LPG enables you to operate on a significantly lower priced fuel. Even though your LPG consumption will be higher than your petrol consumption the lower price of LPG will more than make up for this.

Engine starting

Whether your vehicle is switched to petrol or gas do not press the accelerator to start – simply turn the key to the start position. In fact, for safety reasons, the starter motor will not engage if the accelerator is pressed when starting in LPG mode.

LPG STARTING – *WHEN COLD*

- After being left for a few days, the engine may stall on initial start, and a second start may be required.
- Note that the key may have to be held in the start position slightly longer than for petrol mode in order for the engine to start.

Running-in

If your vehicle is fitted with LPG it is recommended that petrol, rather than LPG be used for the first 500 km when running-in a new vehicle or new engine.

Approximate tank capacities

LPG tank capacity is 74 litres for sedans, 60 litres for wagons and 70 litres for utilities.

The petrol tank capacity is 75 litres for sedans and wagons, 70 litres for utilities.

Insurance policy

You are required to advise your Insurance Company that your new car runs on both LPG and petrol.

ABOUT LPG cont.

Regulations

Your car has been fitted with LPG in compliance with Australian Design Rule 44 / 02 and Australian Standard AS / NZS 1425:1999. It has been identified in three ways (refer to IDENTIFICATION LABELS in Chapter 8 for label location details):

1. An LPG compliance plate has been fitted in the engine bay of your vehicle.
2. A 'Holden By Design' fitment plate has been fitted in the engine bay of your vehicle. Note that the usage of 'Holden' on the fitment plate confirms that the LPG kit is a genuine Holden LPG kit.
3. An LPG symbol has been fitted to the front and rear number plates.

Each of the above must remain on the vehicle.

For your reference, there is also a 'reminder' sticker regarding LPG attached to the upper right hand corner of your windscreen.

The Australian Standard for LPG fuelled cars requires you to have a routine system check performed on the LPG system at least annually. In addition, the LPG tank must be inspected and pressure tested by a licenced LPG cylinder testing station at least every 10 years. Different States in Australia have different regulations regarding LPG. You should check with your State's Authorities as to your responsibilities as an owner of an LPG fuelled vehicle. Also refer to the service booklet in your vehicle's glovebox.

SAFETY

Safety features

The LPG system has a number of safety features:

- A safety valve is fitted which protects the cylinder from over pressurising.
- The filling system has check valves at the cylinder and filler valve to ensure that LPG cannot leak from these points.
- The LPG cylinder is fitted with an automatic shut off valve that will prevent the cylinder being filled more than 80%. This is to allow for liquid expansion that can occur when temperatures increase. The cylinder capacity is the 'fillable' capacity, i.e. the amount of LPG that may be filled into the cylinder (from empty) before the cylinder automatically shuts off.
- The cylinder is fitted with a *manual* shut-off valve, which should be turned to 'OFF':
  - if a gas leak is smelt or suspected
  - if the vehicle is garaged for a long time
  - for vehicle servicing
- If the LPG pipe to the engine is ruptured the system (sensing excessive LPG flow) will automatically shut off the main LPG supply.

Accident or fire

If the vehicle is involved in an accident or fire:

1. Turn off the ignition.
2. Turn off the manual service valve on the LPG cylinder, see illustrations on the pages following.
3. Ensure that there are no sparks, flames etc. near the vehicle.

Leaks

LPG is heavier than air and, if leaked, will tend to sink to low lying areas such as garage pits. In heavy concentrations this can be seen as a white cloud, but in light concentrations may be invisible. Any leakage should be regarded as highly flammable.

To help protect against leaks the cover for the manual service valve is ‘air tight’ and therefore should be securely closed.

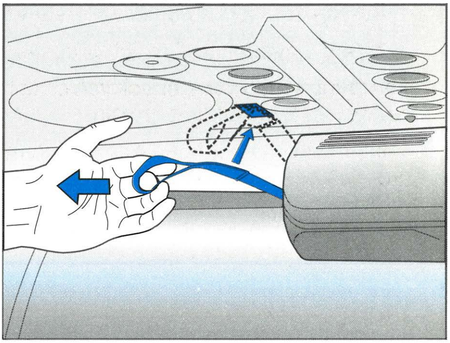
If gas is smelt

If you smell a strong scent of gas turn off the ignition. Ensure that there are no sparks, flames etc. near the vehicle. Then turn off the manual service valve on the LPG cylinder as per the instructions on the following pages.

SAFETY cont.

SEDAN:

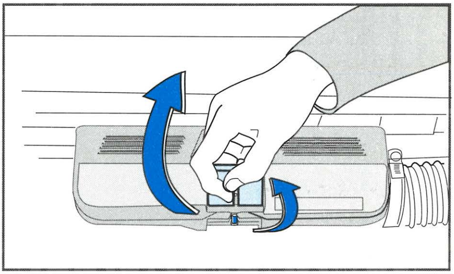
1. Open the boot with the emergency release behind the centre rear seat, as shown in the illustration oposite (refer to Chapter 2 if unsure of how to access it).



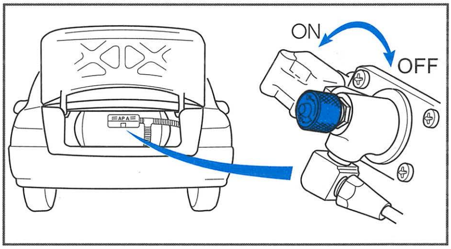
WARNING:

Do not open the boot with a remote release button.

2. From inside the boot, undo the 'lock latch' on the lower edge of the manual service valve cover and pull the cover away.

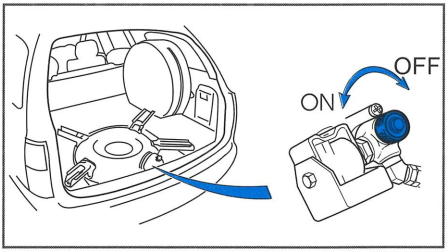


3. Turn the red manual service valve fully clockwise to OFF. Install cover by first locating top edge in place, pushing cover down into place and then snapping down the 'lock latch'. Rattle the cover to ensure it is firmly in position.



WAGON:

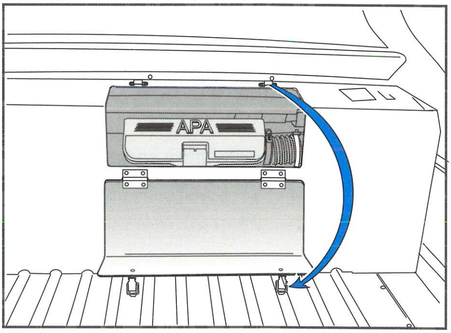
1. Open the tailgate and lift up the floor cover. Unscrew and remove the valve box cover on the LPG tank. Turn the red manual service valve fully clockwise to OFF. To install the cover, locate tab on the left of the cover and then push the right side down. Screw the cover into place, ensuring the seal is in position and the cover is secure.



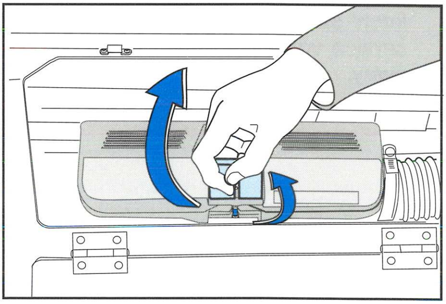
SAFETY cont.

UTILITY:

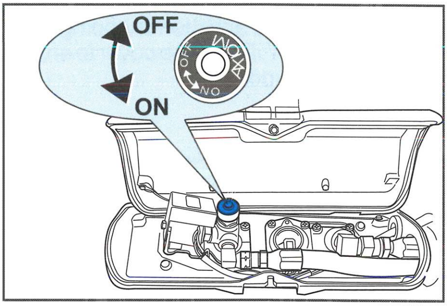
1. Remove the LPG cylinder cover from the top, as shown in the illustration. This provides a window, allowing access to the manual service valve cover.



2. Undo the 'lock latch' on the lower edge of the manual service valve cover and pull the cover away.



3. Turn the red manual service valve fully clockwise to OFF.
4. Install the cover by first locating the top edge in place, than pushing the cover down until it snaps down into position. Rattle the cover to ensure it is firmly in position.



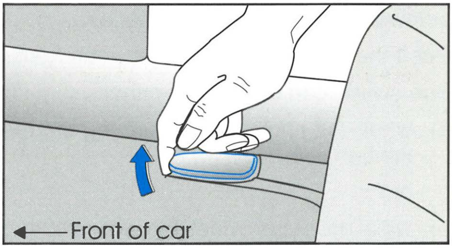
If the smell of gas disappears then drive the vehicle **on petrol** to the nearest LPG Holden Retailer to have the system checked. DO NOT drive the vehicle if the smell does not disappear.

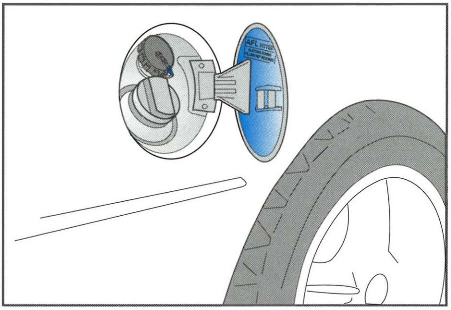
REFUELLING

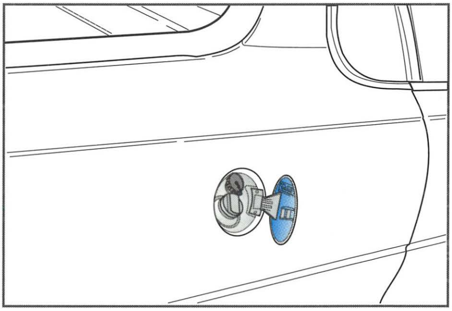
To fill

LPG or petrol may be added, no matter which fuel the engine was running on. As with any fuel, take care not to have flames, sparks etc. near the area when refuelling.

1. Switch off the engine.
2. Pull up the release lever on the floor, to the right of the driver's seat, (sedans and wagons only) to release the fuel flap.
3. The LPG filler is located on the driver's side of the vehicle. Open the flap and unscrew the cap. The LPG filler nozzle can then be connected to the vehicle.







Always remember to:

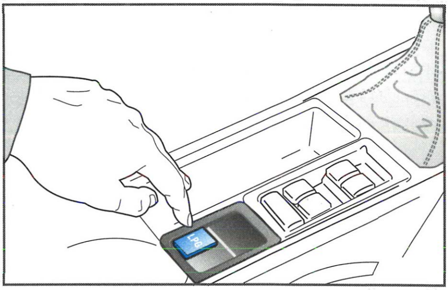
- Release the trigger when the filler shuts off. The AFL (Auto Fill Limiter) shuts off the LPG when your vehicle's cylinder is 80% full, to allow for liquid expansion.
- Disconnect the LPG filler nozzle.
- Screw the cap back on.
- Close the filler flap.

Petrol must be kept in the petrol tank

The petrol tank should always be at least 1/4 full. Petrol does deteriorate over a long time, so it is recommended that you use approx. 20 litres of petrol every 30 to 45 days.

When the engine is running on LPG a small amount of petrol is used when the engine is working hard and when starting. For this reason the vehicle should never be allowed to run out of petrol, as problems can occur (such as difficult starting).

CHANGING OVER FUEL



The switch used to change between petrol and LPG is located in the centre console, below the power window switches.

Push the switch to change between fuels.

The switch can be pushed either:

a) when the engine is not running but the ignition is on,

or

b) while driving, provided the engine speed is over 1,300 r.p.m. (as per the tachometer). If engine speed is under 1,300 r.p.m. then the fuel will not change.

Note: Fuel will not change over if reverse is selected.

A slight hesitation or jerk may be felt when changing over the fuel.

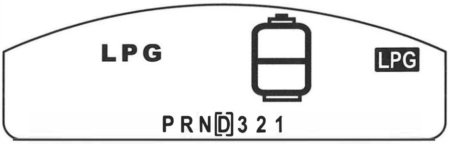
FUEL GAUGE and WARNING / REMINDER INDICATIONS

The fuel gauge on the instrument panel will show petrol tank contents when the system is switched to petrol, or LPG cylinder contents when switched to LPG.

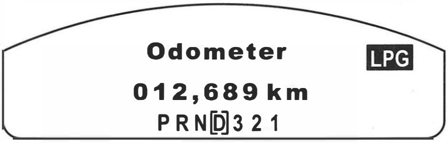
There are certain warning and reminder indications associated with the LPG system fitted to your vehicle that may appear on your instrument panel centre display. They are as follows:

LPG on

When LPG mode is selected, the **LPG** icon and 'LPG' animated symbol illuminate immediately.

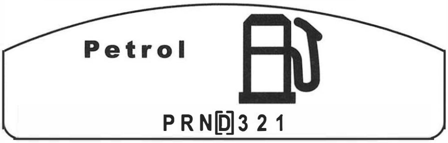


After 2 seconds the display then reverts to the original trip computer display with a small **LPG** icon on the right.

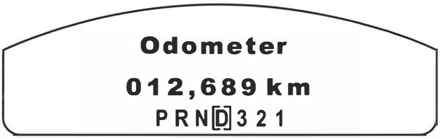


LPG off

When petrol mode is selected, the **LPG** icon extinguishes and is replaced by the 'Petrol' animated symbol.

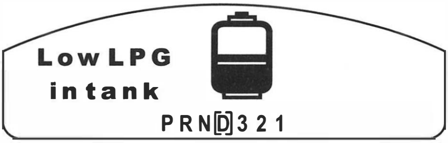


After 2 seconds the display then reverts to the original trip computer display.

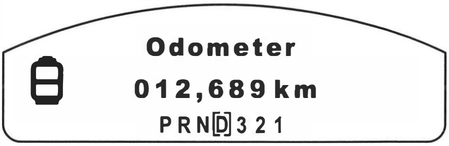


Low LPG in petrol mode

If the vehicle is fitted with LPG, there is an additional warning for low LPG when in petrol mode. If the 'Low LPG in tank' animated warning has activated, it will still be shown at ignition on. When the vehicle is started in petrol mode, the instrument panel goes through the System Check and then displays the 'Low LPG in tank' animated symbol.



The 'Low LPG in tank' animation is displayed until the MODE button on the trip computer switch is pressed. The trip computer then reverts to the original trip computer display with a small low LPG icon on the left. The icon will remain until the LPG tank is filled above the low level.

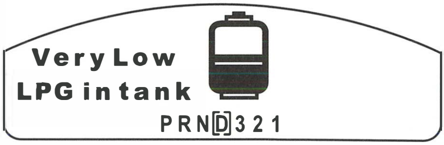


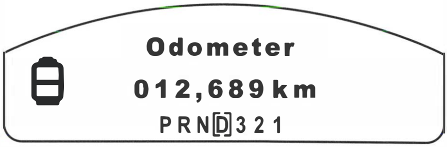
FUEL GAUGE and WARNING / REMINDER INDICATIONS cont.

Very low LPG in petrol mode

If the vehicle is fitted with LPG, there is an additional warning for very low LPG when in petrol mode. If the 'Very Low LPG in tank' animated warning has activated, it will still be shown at ignition on. When the vehicle is started in petrol mode, the instrument panel goes through the System Check and then displays the 'Very Low LPG in tank' animated symbol.

The 'Very Low LPG in tank' animation is displayed until the MODE button on the trip computer switch is pressed. The trip computer then reverts to the original trip computer display with a small flashing low LPG icon on the left. The icon will remain flashing until the LPG tank is filled above the very low level.

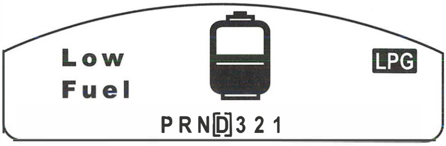


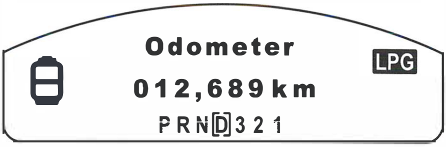


Low LPG

If the 'Low LPG' animation illuminates when operating in LPG mode, it indicates that the LPG tank level is low.

The 'Low LPG' animation is displayed until the MODE button on the trip computer switch is pressed. The trip computer then displays its calculation of kilometres to empty for 10 seconds before reverting to the original trip computer display with a small low LPG icon on the left. The icon will remain until the LPG tank is filled above the low level.





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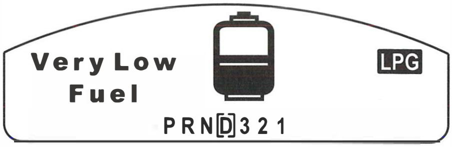
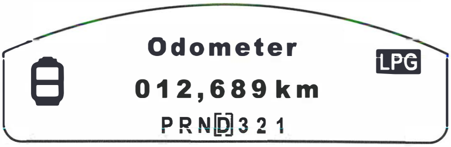




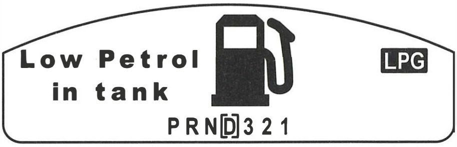
FUEL GAUGE and WARNING / REMINDER INDICATIONS cont.

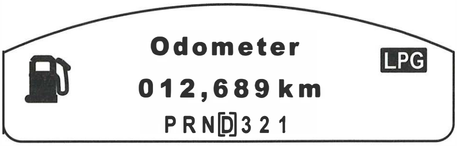
Low petrol in LPG mode

Note: The vehicle uses petrol to start when operating in LPG mode.

If the 'Low Petrol in tank' animation illuminates when operating in LPG mode, it indicates that the petrol tank level is low.

The 'Low Petrol in tank' animation is displayed until the MODE button on the trip computer switch is pressed. The trip computer then displays its calculation of kilometres to empty for 10 seconds before reverting to the original trip computer display with a small low petrol icon on the left. The icon will remain until the petrol tank is filled above the low level.


Low Petrol
in tank
LPG
PRNDD321


Odometer
012,689 km
LPG
PRND321

Very low petrol in LPG mode

Note: The vehicle uses petrol to start when operating in LPG mode.

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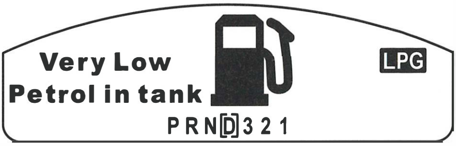
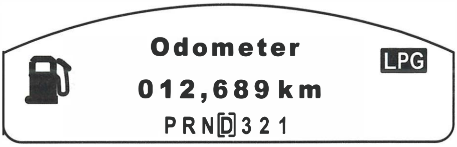
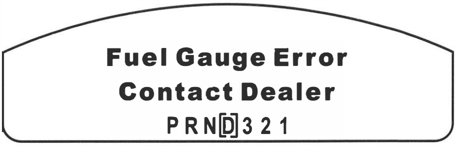

Very Low
Petrol in tank
LPG
PRND321

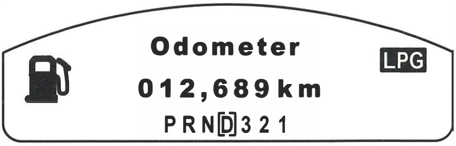

Odometer
012,689 km
LPG
PRND321

Fuel gauge error

If the 'Fuel Gauge Error Contact Dealer' animation illuminates while driving, a fault in the fuel level measurement system is indicated. You should contact your Holden Retailer as soon as possible.

The 'Fuel Gauge Error' animation is displayed until the MODE button on the trip computer switch is pressed. The animated symbol then reverts to the original trip computer display with a small LPG icon on the left. The icon will remain until the problem is rectified.


Fuel Gauge Error
Contact Dealer
PRND321


Odometer
012,689 km
LPG
PRND321

NOTES

NOTES

CHAPTER 6

Emergencies

Page

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  Being a witness
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Your new vehicle is covered for 3 years by 24 hour Roadside Assistance. Refer to Chapter 9 for details.

ACCIDENTS

All drivers are advised to learn what to do at the scene of an accident, particularly where people are injured. Injured people can choke to death if their air passages are not cleared, they can bleed to death unless the bleeding is stopped, they may require mouth-to-mouth resuscitation or may have to be moved, even though badly injured. It is important that you understand how to avoid further damage to an injured neck, back or broken limbs. In all cases, ensure safety for rescuers, victims and bystanders.

The following notes may help.

Accident – being involved

Stop immediately and remember to turn off the engine and apply the park brake.

Remember that time is vital. Remain calm and alert. Think quickly and clearly.

Give all possible assistance to all injured persons (refer to page 6-3).

Send for police and ambulance if anyone has been injured. Give information as accurately as possible: the exact location, the number of injured people and a brief report on the overall situation.

Warn all other traffic approaching the scene. Turn off ignition switches. Stop any smoking near spilt petrol. In darkness, try to light up the area to warn others, using a torch or headlights (do not use flammable items).

Clear the road of accident debris.

Exchange your name, address, vehicle registration, owner's name and address with the other parties involved in the accident.

If damage to property only has occurred, report the facts to the owner of the damaged property or to his / her representative, to any police present at the scene of the accident, or to the nearest Police Station.

Try to note all important facts because such details may be needed to support any official enquiries made at a later date.

Accident – being a witness

If you witness a road accident or it becomes your task to stop and help:

- Keep in mind that an observant witness can prove most helpful.
- DO NOT stop at the scene of an accident just to be a spectator. If other people are already in attendance and giving assistance, you should only stop if you can contribute assistance.
- Give what assistance you can to any injured persons (refer to page 6-3).

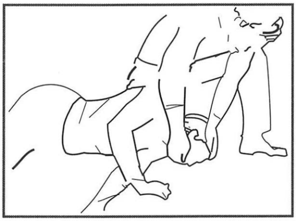
ACCIDENTS cont.

Medical assistance

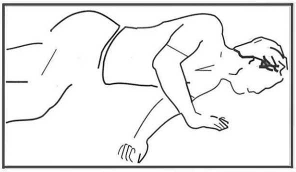
This information is intended only as a guide to basic first aid and may not be applicable in all situations. You should always defer to a trained medical officer or other person with first aid knowledge. Protective equipment, such as rubber gloves are recommended.

Keep calm and think clearly. Your experience may be limited but do your best to assist.

- Look after any unconscious people first. Check their airway, breathing and circulation. If they are not breathing, check if their air passages are clear, i.e. nose and mouth. Use your fingers to clear air passages if necessary. If the air way is clear then mouth-to-mouth resuscitation may be needed at once.
- You must be very careful when moving an injured person. It is best not to move them at all, except if they are in immediate danger. Serious and permanent damage can be done to an injured neck or back if not supported correctly during movement. AVOID BENDING OR TWISTING A NECK OR BACK. KEEP THEM STRAIGHT. Injured limbs also require support when an injured person has to be moved.
  - Unconscious people can choke.
  - Carefully turn them onto one side.
  - Tilt their head back slightly.
  - Wipe out their mouth with your finger to remove any obstructions such as blood, vomit, broken teeth or dentures.



- Provided it is not dangerous to do so because of other injuries, an unconscious person is best placed in the position illustrated here.
  - Lay the person on one side, if it will not aggravate any injuries. Then:
  - Bend the uppermost knee until the thigh is at a right angle to the body.
  - Bend the uppermost arm and elbow so that the hand rests near the face.
  - Gently pull the underneath arm so that it rests straight on the ground, free of any body weight.



- Try to stop bleeding by applying direct pressure to the wound using your hand, or by pressing torn flesh together. Fold any clean cloths available to make pads. If necessary press one pad on top of another. Continue to apply pressure around edges of a wound BUT NEVER USE A TOURNIQUET.
- Shock may be treated by reassuring the injured person, relieving pain, controlling any bleeding and keeping them warm but not hot. It is best not to give any fluids to an injured person and NEVER ALCOHOL.
- If the injured person is in danger and has to be moved, try to have three or four people to help and concentrate on not bending or twisting the neck, spine and injured limbs. Keeping the neck and spine straight is most important.

FLAT TYRE

WARNING:

- Use the jack only for lifting the vehicle when changing wheels.
- Never get beneath the vehicle when it is only supported by the jack.
- Do not start or run the engine while the vehicle is only supported by the jack.
- All passengers should be out of the vehicle when it is being jacked.
- Use the jack only at the designated lifting points. Use in other locations may result in the vehicle falling off the jack, or damage the body of the vehicle.
- If using a jack (or hoist) other than the jack supplied with the vehicle, refer to page 7-16 for the correct lifting positions.
- The vehicle should only be jacked on hard, level surfaces.
- Vehicles with alloy wheels may have a steel spare wheel fitted. Drive carefully and do not exceed 80 km/h when a combination of alloy and steel wheels are fitted on the vehicle. The flat tyre should be repaired and refitted to the vehicle as soon as possible.

One-direction (uni-directional) tyres

SS models of vehicle are fitted with uni-directional tyres, indicated by arrows on the tyre wall showing the direction it is designed to rotate when the vehicle is moving forward. If the tyres are marked with arrows, the tyres on the left-hand side of the vehicle show the arrow pointing anticlockwise, and those on the right-hand side show the arrow pointing clockwise.

Wherever possible, uni-directional tyres should be replaced with a tyre of the correct orientation. In the event of a flat tyre emergency, a uni-directional tyre may be fitted to the 'wrong' side of the vehicle or a multi-directional tyre used temporarily. However, the flat tyre should be repaired and refitted to the vehicle as soon as possible.

WARNING:

Drive carefully, particularly in wet conditions, and do not exceed 80 km/h when an incorrectly placed uni-directional tyre or a combination of uni-directional and multi-directional tyres are fitted to the vehicle. The flat tyre should be repaired and refitted to the vehicle as soon as possible.

Temporary spare wheel – wagons

WARNING:

Wagons fitted with 235 / 45R17 93V tyres, have a temporary spare wheel. The temporary spare wheel is for emergency spare use only; drive carefully and do not exceed 80 km/h when the wheel is fitted on the vehicle. Your vehicle's handling capabilities will be reduced when the temporary spare wheel is fitted. Only one temporary spare can be used on the vehicle at the one time. The flat tyre should be repaired and refitted to the vehicle as soon as possible.

Your temporary spare must have a maximum load rating of at least 690 kg, or a load index of 95, and a speed category symbol of at least H.

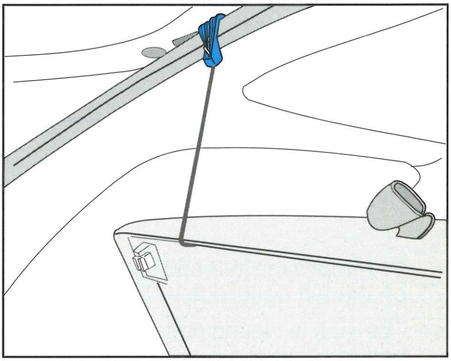
Temporary spare wheel and tyre specification:

RIM SIZE	TYRE SIZE	TYRE INFLATION PRESSURE
15 X 6 J	P205 / 65R15 95H	280 kPa (41 psi)

FLAT TYRE cont.

1. Park on a level surface and set the park brake firmly.
2. Remove the ignition key and place manual transmissions in REVERSE gear or automatic transmissions in PARK.
3. Remove the spare wheel, jack and combination jack handle / wheel wrench. Instructions for removing these parts from wagon, sedan and utility models are outlined in the following pages.

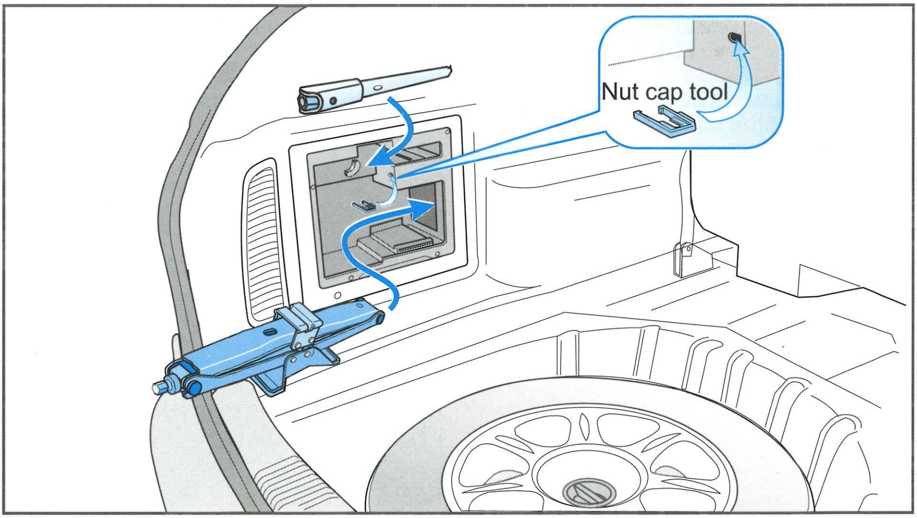
Wagon (petrol)



Open the tailgate. A finger loop is provided on the centre rear edge of the floor cover. Use the loop to pull up the cover, which can then be secured out of your way with a hook. The hook is provided underneath the cover. Unclip the hook and attach it to the weather-seal.

Note: Remember to unhook the cover before closing the tailgate.

- Undo the nut in the centre of the spare wheel anticlockwise and lift the wheel out of the vehicle.
- To remove the jack and combination jack handle / wheel wrench, pull down the cover on the left hand side of the vehicle.
- The jack is wound up to fit into the storage position. Wind the jack down at the nut before removing it.
- Apply pressure to the retaining clip to release the combination jack handle / wheel wrench from its housing.
- If your vehicle is fitted with individual nut caps, slide the nut cap tool from its housing.



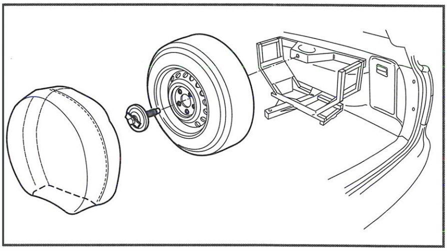
FLAT TYRE cont.

Wagon (LPG)

Wagons *not* fitted with LPG have the spare wheel secured under the floor in the load compartment area, as shown on page 6-5.

When LPG is fitted, the LPG tank takes up the room under the floor. Therefore, the spare wheel is stored in an upright position behind the rear seat.

To remove the spare wheel first take off the cover. Then undo the retaining knob and lift out the wheel. If necessary, use the wheel brace to undo the retaining knob.

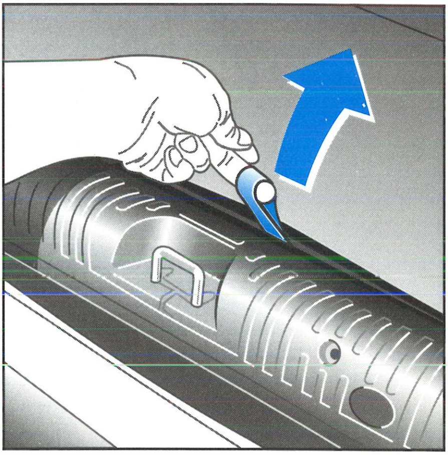


Note: The retaining knob should only be done up 'finger tight' but this may self tighten with time.

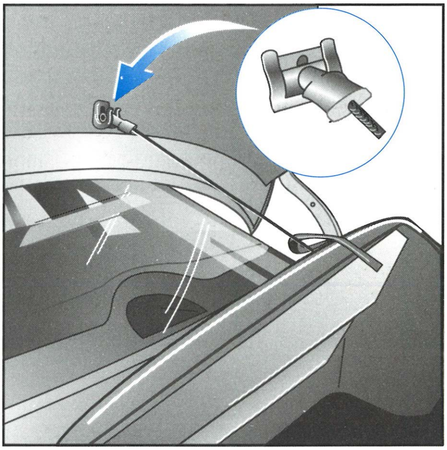
- To remove the jack and combination jack handle / wheel wrench, pull down the cover on the left hand side of the vehicle (refer to illustration on previous page).
- The jack is wound up to fit into the storage position. Wind the jack down at the nut before removing it.
- Apply pressure to the retaining clip to release the combination jack handle / wheel wrench from its housing.
- If your vehicle is fitted with individual nut caps, slide the nut cap tool from its housing.

Sedan

The spare wheel is stored in a compartment in the floor of the boot. Open the boot, and use the finger loop to pull up the spare wheel cover.



FLAT TYRE cont.

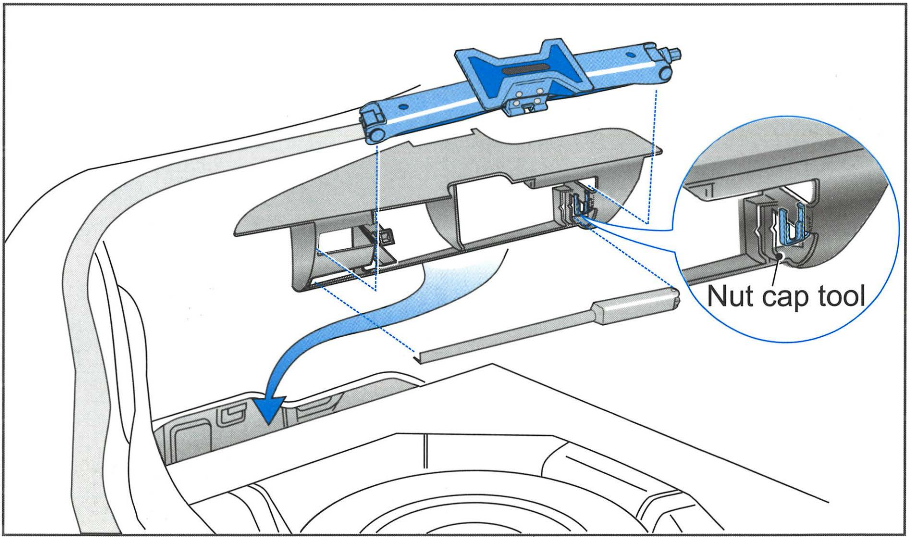


The spare wheel cover can be secured out of your way. An extendable strap is provided in the centre of the rear edge of the spare wheel cover. Pull up the T-piece and attach it to the boot, as shown.

Note: Remember to unhook the strap before closing the boot.

Undo the nut in the centre of the spare wheel anticlockwise and lift the wheel out of the vehicle.

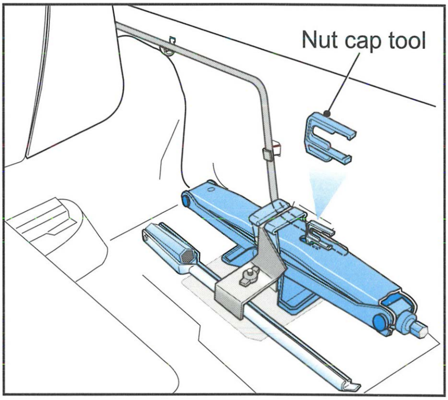
- The tools are stored in a special container in the floor, which is also under the spare wheel cover.
- The container pulls out of the storage compartment in the floor to allow access to the jack, combination jack handle / wheel wrench and nut cap tool.
- Remove the jack and combination jack handle / wheel wrench by lifting the clips that secure them and sliding them out of the container.
- If your vehicle is fitted with individual nut caps, slide the nut cap tool from its housing.



FLAT TYRE cont.

Utility

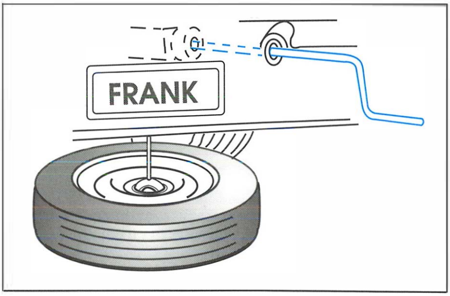
Remove the jack, combination jack handle / wheel wrench and spare wheel hoist handle from behind the seats by unscrewing the nut on the retaining bracket and lifting them out. If your vehicle is fitted with individual nut caps, slide the nut cap tool from its housing on the jack.



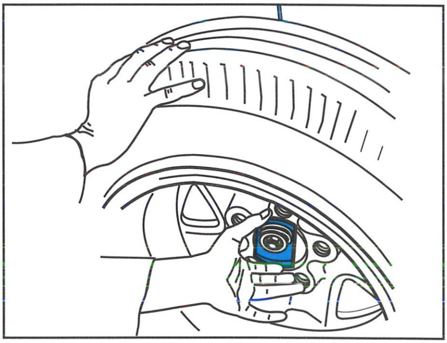
At the rear of the ute, insert the hoist handle through the round hole near the number plate.

'Jiggle' the hoist handle until the square end of the handle fits into the cut-out in the hoist.

Turn the hoist handle anticlockwise to fully lower the spare wheel.

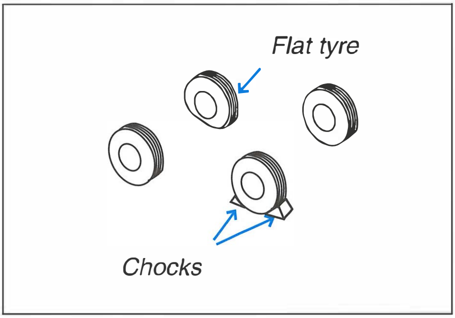


From underneath the wheel, tilt the wheel retainer, and pass it up through the centre of the wheel.



FLAT TYRE cont.

4. Chock the wheel diagonally opposite the flat tyre with a solid object.



5. If the wheel trim covers the wheel nuts, remove as follows:

   If individual wheel nut caps are fitted, remove each nut cap individually, using the nut cap tool provided. Insert the nut cap tool into the nut cavity, squeeze the tool to grasp the nut cap and pull outwards to remove it. Put the nut caps (together) in a dry, clean place to avoid getting dirt inside the caps.

   If a centre cap is fitted, remove it by hand. Grasp the top edge of the centre cap with your fingers and pull it outward and downward until it is released.

   Note: The pulling action will cause the centre cap to warp slightly. It will regain its shape once it is removed from the wheel completely.

6. Loosen, but do not remove the wheel nuts by turning the wheel wrench anticlockwise.

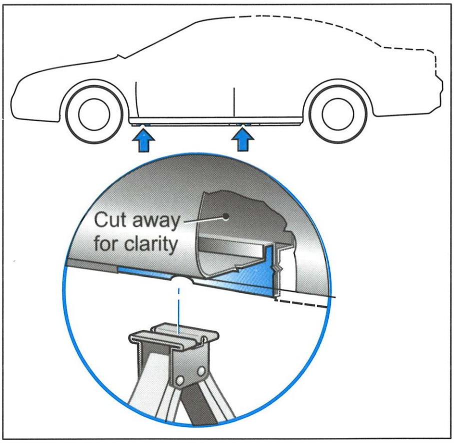
7. Fit the jack handle onto the jack by sliding the open end of the handle over the nut end of the jack.

8. Place the jack beneath the jack location closest to the wheel being changed.

   There are four jack locations; two each side of the vehicle. The jack locations (blue arrows in the illustration) are marked by half circle cut-outs on the vehicle.

   The rear jack location is positioned half way along the vehicle.

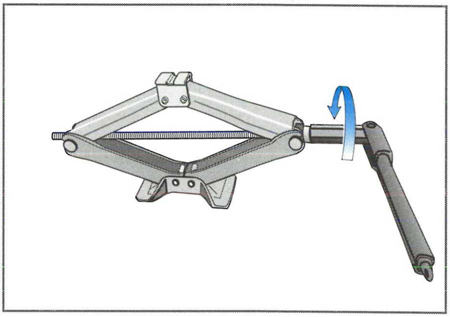
   Note: Always read the label on the jack.



WARNING:

Failure to position the jack as described above could cause the vehicle to slip off the jack.

FLAT TYRE cont.



9. Raise the jack to fit the U-shaped lifting foot of the jack around the body of the vehicle, at the jack location.

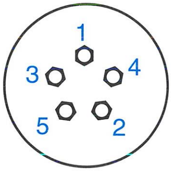
   Ensure that the jack is not tilted and that the base is resting squarely on the ground.

   Turn the handle clockwise to raise and anticlockwise to lower the vehicle.

   Note: The jack handle must be unfolded into a right angle (as shown) before it is used.

10. Raise the vehicle until the tyre is clear of the ground. Remove the wheel nuts and place (together) in a dry place to avoid getting dirt in the threads. Exchange the wheel on the vehicle with the spare wheel.

    Note: You may wish to change the wheel centre cap onto the wheel being put on the vehicle. Remove the centre cap from the wheel that has the flat tyre by gently punching it out from the back of the wheel. Push it onto the spare wheel, now on the vehicle.



11. Replace the wheel nuts and tighten by hand. Then, using the wheel wrench, lightly tighten each nut in the sequence shown.
12. Lower the vehicle completely and remove the jack.
13. Fully tighten the wheel nuts using the wheel wrench in the sequence shown.

14. Replace any wheel trim which covers wheel nuts, as follows:

    - Ensure that the wheel trim is clean of excess dirt.

    Note: Each type of wheel trim fits in a specific position on the wheel. If incorrectly placed the trim will not sit 'flush' and, if forced, may damage the wheel.

    - If **a full wheel trim** is fitted, locate the valve in the valve hole provided in the wheel trim. Working around the wheel trim, use several light blows with the palm of your hand to push the wheel trim on. It may be necessary to protect the hand during this operation.
    - Where **a centre cap** is fitted, simply push the cap firmly onto the centre part of the wheel using your hand.
    - Where **individual wheel nut caps** are fitted, replace caps over each nut.

FLAT TYRE cont.

15. Stow all tools and flat tyre as shown in previous pages.

    Notes:

    - Wagons – After replacing the jack in its compartment, you must wind it up at the nut end of the jack, to fit correctly into the stowage position.
    - Remember to unhook the spare wheel cover before closing the boot / tailgate.
    - To reduce movement of the spare wheel in the load area, the centre nut should be tightened to between 2 to 3 Nm (very tight 'finger' tight). The spare wheel should be laying flat and centralised in position.

16. Remember to get the tyre repaired as soon as possible.

WARNING:

As soon as possible after changing a wheel, you should have the wheel nuts tightened with a torque wrench to between 100 and 125 Nm. Wheel nuts should be tightened evenly to the correct torque in the sequence shown (refer to page 6-10), as wheel nuts which have not been tightened properly could eventually allow the wheel to come off while the vehicle is moving!

TOWING A DISABLED VEHICLE

Towing a disabled vehicle

Proper lifting or towing equipment is necessary when lifting or towing the vehicle to prevent damage. State and Local laws must be followed. In an emergency, your vehicle may be towed on all four wheels in the following manner:

- Fit the towing equipment to the holes at the side of the front cross member. Use of two hooks with the load evenly spread, rather than one, is recommended. Do not attach towing equipment to the bumpers or brackets, suspension or cross members.
- Place the transmission in NEUTRAL and release the park brake.
- Switch the ignition key to ACC. This will free the steering lock and allow the correct operation of windscreen wipers and turn signals.
- For safety and to prevent damage to the vehicle it is advisable to avoid jerky movements and to drive slowly during towing operations.
- Remember that *power assist* for brakes and *power steering* are not available when the engine is off. The brakes and steering still function, but take greater effort.
- To prevent exhaust fumes from the towing vehicle entering the towed vehicle, close the windows and move heating and ventilation controls to the 'recirculate' position.
- Vehicles fitted with automatic transmissions must not be towed for more than 55 km or at over 55 km/h unless the propeller shaft is removed.
- Vehicles with damaged transmissions must not be towed unless the propeller shaft is removed.
- Only the driver should be in a towed vehicle.

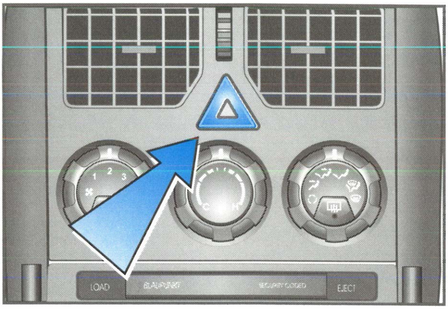
Hazard warning flashers

Press the switch (as shown) to turn the hazard warning flashers on and off. The hazard warning flashers work regardless of the ignition position.

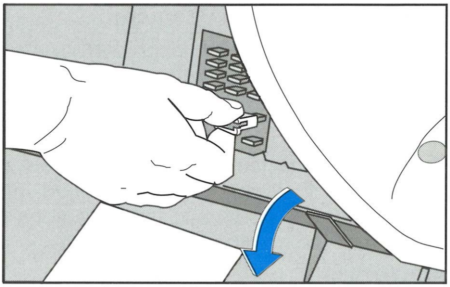
When turned on, all turn signals flash continuously.

Use the hazard warning flashers to warn other drivers any time your vehicle becomes a traffic hazard, day or night.

Use of the hazard warning flashers while the vehicle is moving may be illegal in some States.



FUSES



The main fuse panel is in the instrument panel, below the steering column.

Pull the hinged fuse panel down to reveal the fuses.

The separate, fuse / relay box is located in the engine compartment, marked 'Fuses'. Access to these fuses is gained by removing the snap-on cover.

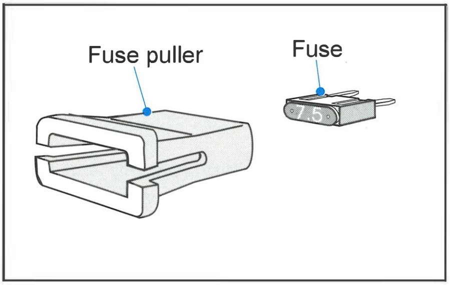
Both covers have diagrams showing the layout of the fuses and the amperage rating.

To determine whether or not a fuse is 'blown', it is necessary to pull out the suspect fuse and examine the element in the fuse. A fuse puller is provided in the fuse panel inside the vehicle.

If the fuse has blown, replace with one of the same amperage, as stamped on the fuse head.

If a fuse blows twice in a row a fault is indicated. The cause should be promptly located and fixed.

Ensure that the fuse cover, either inside the vehicle or under the bonnet, is securely in place.



WARNING:

When replacing a fuse be sure to use a fuse of the specified amperage. Never install a wire or similar as it could damage electrical components and cause a fire.

ENGINE OVERHEATING

WARNING:

Immediate action is required if the engine overheats. This can be indicated by the temperature gauge needle moving over to the 'H' or the animated warning 'Engine Temp Hot' appearing on the central display (refer to page 1-10), by steam escaping from under the bonnet, a loss of power or a loud knocking or pinging noise. Continued driving EVEN FOR A SHORT TIME could cause a fire or vehicle damage.

Pull out of the traffic as soon as possible and stop the vehicle. Leave the engine idling, ensure that the park brake is applied, and that manual transmissions are placed in NEUTRAL and automatic transmissions are placed in PARK, while you get out and check that the cooling fan is working.

WARNING:

Do not open the bonnet if you can see or hear steam or coolant escaping from the engine compartment. Wait until no steam or coolant can be seen or heard before opening the bonnet.

If the fan is working and the temperature gauge needle has not returned to its normal position within a few minutes STOP the engine and remove the ignition key. Look for leaks at the radiator hoses and connections, heater hoses and connections, radiator and water pump. Take care when checking these areas as they will probably still be hot.

If you find a major leak or other problems that may have caused the engine to overheat, do not run the engine until these problems have been corrected.

If you do not find anything wrong, you should check the engine coolant level, for V6 or V8 as appropriate.

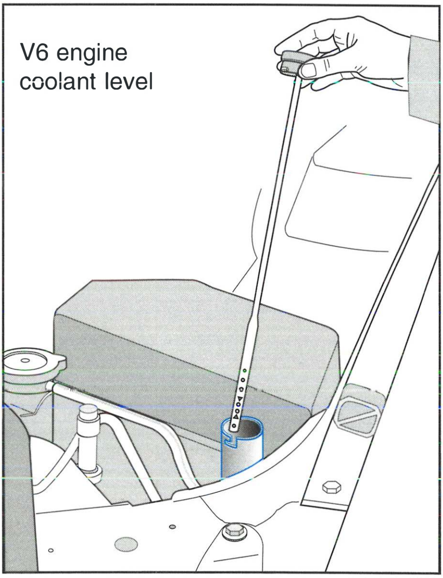
For 'S' sedans, 'SS' sedans and 'SS' utilities, you should also check the air intake area below the front bumper to ensure that it is clear of leaves and road grime. Refer to Chapter 7, Weekly Checks for details.

V6 engine

Turn the coolant dipstick cap one-eighth of a turn anticlockwise and pull out the dipstick. When the engine is cold, the coolant level should be at or above the *lower triangle* mark on the dipstick. After the vehicle has been driven and the engine is at normal operating temperature, the level should be somewhere between half full and the *Maximum* triangle mark. If the coolant level is correct, replace the dipstick and turn the cap one-eighth of a turn clockwise to secure. If the level is too low, proceed as follows:

WARNING:

Do not remove the radiator cap if the engine and radiator are still hot. Scalding fluid and steam can be blown out under pressure which could cause serious burns.



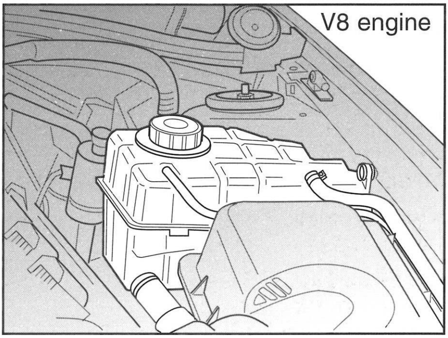
ENGINE OVERHEATING cont.

When the engine has cooled sufficiently, check the radiator level as follows.

- Cover the radiator cap with a thick cloth and turn it slowly anticlockwise (without pressing down) until it reaches a 'stop'. This is the pressure relief stop, which allows any remaining pressure (indicated by a hissing sound) to escape.
- Press down on the cap and continue turning it anticlockwise until it can be removed. Then remove the coolant dipstick. With the radiator cap OFF, top up the coolant dipstick tank if required. Remember to check that the dipstick is secure after filling. Then, **WHILE THE ENGINE IS IDLING**, top up the radiator (if required) and replace the radiator cap.

V8 engine

When the engine is cold the coolant level should be at or slightly above the 'COLD FILL' mark at the centre weld joint. After the vehicle has been driven and the engine is at normal operating temperature, the level should be between the centre weld joint and the cap. If the coolant level is correct, do not undo the cap.



If the level is too low, cover the cap with a thick cloth and slowly turn anticlockwise. **WHILE THE ENGINE IS IDLING** and with the coolant cap off, top up the coolant tank if required. Replace the cap and leave the engine idling for a few minutes while the level settles.

Do not overfill as coolant requires space to expand when warmed up.

All engines

If, after carrying out one or more of the preceding actions the temperature gauge no longer signals an overheat condition, you can resume driving at a reduced speed. Return to normal driving after 10 minutes if the temperature gauge does not show an overheat condition once more. If overheating occurs again you should have the vehicle attended to by a qualified mechanic as soon as possible.

The engine may temporarily operate at high temperatures during demanding operating conditions, especially on hot days, including: climbing a long hill; stopping immediately after high speed driving; idling for long periods in traffic; towing a heavily laden trailer or caravan.

You should avoid driving for prolonged periods in any of the above conditions if the temperature gauge shows 'H'. It may help to turn off the air conditioner in these conditions. Chapter 7 gives instructions to help protect your cooling system from overheating.

ENGINE OVERHEATING cont.

Air bleeding – all V6 engines (including supercharged)

These engines have bleeder vents to let any trapped air escape from the cooling system. Air bleeding should be done if a significant amount of coolant has been added, otherwise the engine may overheat. This is particularly important if the engine is supercharged, as these engines have **three** air bleed points.

It is recommended that air bleeding be done by your Holden Retailer who has the most up-to-date technical information and equipment for the system. You should have the air bled **as soon as possible** on supercharged engines or they may be damaged due to overheating.

If you have to drive the vehicle before the air bleeding is done, ensure that the coolant level in the radiator is as high as possible. This involves constantly checking and topping up the level. It is recommended you reduce the load on the power train, i.e., reduce the driving speed, do not tow heavy loads or heavily load the vehicle until the air is bled.

FLAT BATTERY

WARNING:

DO NOT 'push start' or 'tow start' your vehicle, either manual or automatic. If unburnt fuel were to reach the catalytic converter and ignite, the converter could overheat or be destroyed by backfire. Therefore, if the battery is flat, you can 'jump start', but not 'push start' your vehicle.

Please read the following procedure in full before attempting to jump start your vehicle.

If, after reading the following procedure, you are still unsure about 'jump starting' we strongly recommend for your safety and that of your vehicle that you seek the assistance of a competent mechanic.

Jump starting

WARNING:

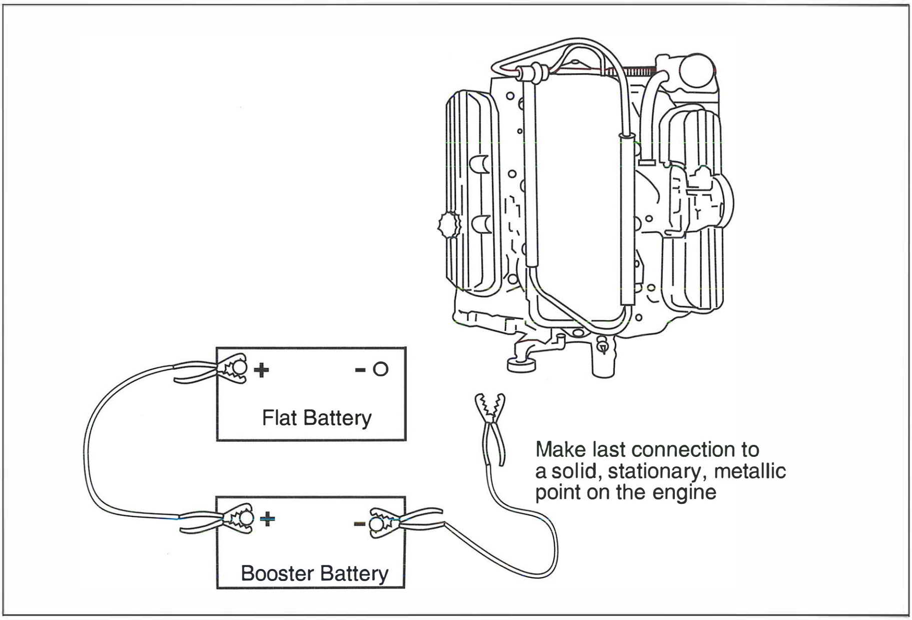
Batteries produce explosive gases, contain corrosive acids and supply levels of electrical current high enough to cause burns. Therefore, adhere to the following when working near a battery:

- Do not use open flames or sparks near the battery.
- Do not smoke near the battery.
- Wear eye protection such as safety glasses and avoid leaning over the battery.
- Battery acid is corrosive. If it gets on your skin, wash with plenty of water immediately. If it gets in your eyes you should not only flush with lots of water but should also seek medical help. Battery acid also damages paint and fabrics. To minimise damage, wash off immediately.
- Be sure any batteries that have filler caps are properly filled with fluid.
- Remove rings, metal watch bands and other metal jewellery before working around the battery.
- Never use a quick charger to start your engine.
- If you have a telephone fitted to your vehicle, you should remove the fuse for the telephone before jump starting. Remember to replace the fuse afterwards.

1. The battery in your vehicle has a negative earth and a 12 volt rating. The battery in the other vehicle **MUST** also have a negative earth and a 12 volt rating. Remove any battery covers.
2. Position the two vehicles so that they are NOT touching, apply the park brakes, put automatic transmissions in PARK and manual transmissions in NEUTRAL. Turn ignition to LOCK and switch off all lights and accessories in both vehicles, except the hazard warning flashers or any lights needed for the work area.

FLAT BATTERY cont.

3. Attach one end of the RED jumper lead to the positive terminal of the booster battery (identified by a red colour, + or P) and the other end of the RED jumper lead to the positive terminal of the flat battery.



Make last connection to a solid, stationary, metallic point on the engine

4. Attach one end of the BLACK jumper lead to the negative terminal of the booster battery (identified by a black colour, – or N) and the other end of the BLACK jumper lead to a solid stationary, metallic point on the engine of the vehicle with the flat battery. DO NOT CONNECT DIRECTLY TO NEGATIVE TERMINAL OF THE FLAT BATTERY.

WARNING:

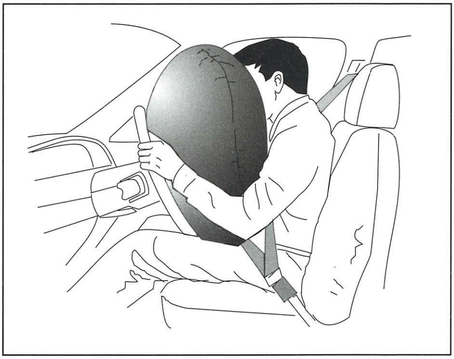
When making all connections take care that the jumper lead clamps do not touch each other. Also, ensure that jumper leads are not on or near pulleys, fans or other points that will move when the engine is started.

5. Start the engine in the vehicle with the good battery and run the engine at a moderate speed. Then start the engine with the flat battery.
6. Leave the engines running while removing the jumper leads in exactly the reverse order that they were installed. While removing each clamp, take care that it does not touch any other metal while the other end remains attached.
7. Replace any battery covers.

AIR BAGS (if fitted)

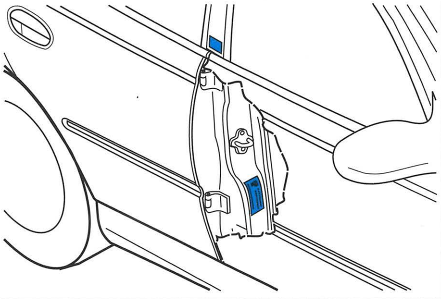
Your vehicle is fitted with a driver's air bag, stored inside the steering wheel ('SRS AIR BAG' is stamped on the steering wheel and a label is attached under the driver's side sunvisor).

Your vehicle may also have a front passenger's air bag, stored in the dash panel. The fitment of a passenger's air bag is recognised by the wording 'SRS AIR BAG' above the glovebox and a label attached under the passenger's side sunvisor.



Some models also have side impact air bags, for the driver and front passenger, stored in the side of the seat backs closest to the door. If your vehicle is fitted with side impact air bags there will be labels on both door lock pillars and on the outside of the vehicle, as shown.

Side impact air bag labels
- on both sides of the vehicle

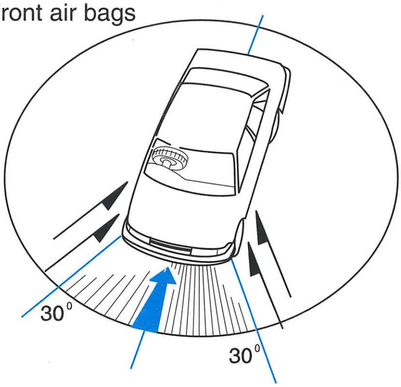


If your vehicle is fitted with two front air bags they operate as a pair and are triggered simultaneously in the event of any significant frontal impact. However, side impact air bags are triggered independently.

In a severe front end collision, both front air bags inflate, assisting seat belts to restrain forward body movement. A side impact air bag will only trigger on the side of the vehicle that is struck.

When air bags inflate an operating noise may be heard and a small amount of smoke-like gas is released. The gas is harmless and does not indicate malfunction or fire. The air bag then deflates, with the whole process taking only a moment.

Front air bags



Front air bags will inflate if vehicle struck hard, in frontal or near frontal impacts. Front air bags will not inflate if vehicle struck from side, rear, or in some rollovers....always wear a seat belt.

WARNING:

Air bags are part of the 'Supplemental Restraint System' as they assist, but do not replace seat belts. Air bags are not designed to inflate if the vehicle is hit from the rear or is overturned. **Seat belts must be worn by all passengers whenever the vehicle is moving.**

AIR BAGS (if fitted) cont.

Air bags inflate with great force. If you are too close to an inflating air bag it may cause injury. Seat belts help keep you in position for air bag inflation in the event of a collision.

Ten seconds after any air bag or seat belt pretensioner (refer to page 3-7) has been activated (and the vehicle has stopped) your vehicle will:

- unlock the doors,
- turn off the engine,
- turn off the fuel pump,
- and switch on the interior light

provided there is battery power.

Switch the ignition OFF and then ON if re-starting the engine is required.

A **SRS** warning light on the instrument panel illuminates for a few seconds when the ignition is switched ON. This is to indicate that the air bags are operational. If the light *does not* show when the ignition is switched to ON, or if it illuminates when driving, you should contact your Holden Retailer immediately, as the air bags and seat belt pretensioners may not function correctly in the event of an accident.

The warning light will illuminate after an accident if a side impact air bag, seat belt pretensioners, or seat belt pretensioners and air bag(s), have activated. Refer to page 1-8 for details about warning lights and fault indicators applicable to air bag and pretensioner operation.

After an accident in which the front air bag system was triggered, the air bag system (steering wheel, steering column, air bag, seat belt and control module) must be replaced. If a passenger's air bag is fitted, the air bag assembly, air bag cover, seat belt and the dash panel also need to be replaced. After side impact air bag deployment, the relevant seat, seat belt, sensor and control module require replacement. It is recommended that this work be done by a Holden Retailer.

WARNING:

Front passenger's air bag: The dashboard area must be kept clear. Do not place any objects over the dashboard or between an air bag and yourself. Nothing should hang from the sun visor or mirror and a passenger must not rest their feet on the dashboard.

Driver's air bag: The horn pad must not be covered with adhesive or any other material. The driver should adjust the seat as far back as possible and sit back as far as possible while still maintaining control of the vehicle.

Side impact air bags: Do not fit unauthorised seat covers as they may impair the deployment of the side impact air bags. Do not position your body or any object (including pillows) between front seats and doors. Front seat occupants should not lean on or sleep against the door. Always sit centrally in the seat.

AIR BAGS (if fitted) cont.

The system should also be inspected by a Holden Retailer if the dashboard area or steering wheel is scratched, cracked or damaged, or, if side impact air bags are fitted, the front seats are damaged.

Extensive design and testing has gone into the Holden air bag system. It is extremely reliable and has little chance of accidental inflation. However, it should be treated with respect. Any careless or unskilled interference with the system could lead to its failure or to accidental inflation. Any work to the electrical system, steering column, dashboard area, steering wheel, front seats (if side impact air bags are fitted) or air bag system should *only* be carried out by an authorised Holden Retailer.

ROO BAR NOTE: Fitting a roo bar can change the impact speed which would normally cause the front air bags to inflate, reducing effectiveness and potentially increasing the risk of injury and repair cost. Please refer to page 4-14 for further information about fitting a roo bar.

SIDE AIR BAG NOTE: The side impact air bags (SIAB) will deploy and offer protection in most, but not all, severe side impacts. Because of the limited time available to detect some side impacts, it is not possible to deploy the SIAB in all serious accidents (e.g. some pole impacts).

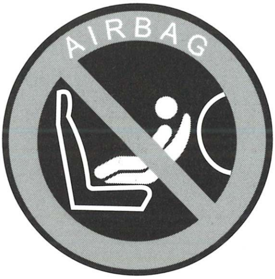
AIR BAG AND CHILD RESTRAINTS:

EXTREME HAZARD:

Do not use a rearward facing child restraint on a seat protected by an air bag in front of it.

WARNING:

1. NEVER install a rearward facing child restraint in the front seat of a vehicle with a passenger-side air bag. The child could be seriously injured if the passenger-side air bag inflates, as the child's head would be very close to the inflating air bag.
2. NEVER install a child restraint in the front seat of a vehicle fitted with Side Impact Air bags. Remember that it is safest for children to be seated in the rear seats.
3. It is always better to install a child restraint in the rear seat.



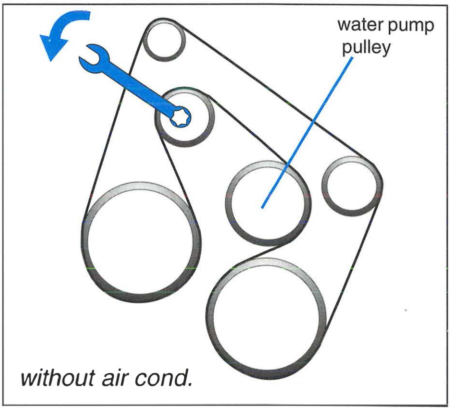
Please refer to page 3-8 for further information about fitting a child restraint.

6 CYLINDER ENGINE BELT

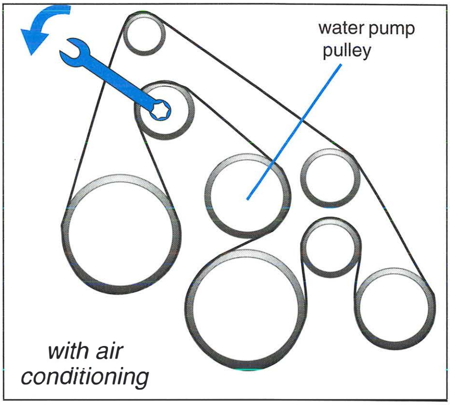
If the 6 cylinder engine accessory belt is broken, replace as follows:

1. Feed the belt over the pulleys as shown – except for the water pump pulley. Ensure that the belt is correctly installed around the pulleys before proceeding.
2. Put a 15 mm ring spanner over the bolt in the centre of the pulley shown.
3. Move the spanner anticlockwise to release the tension on the belt.
4. Feed the belt around the water pump pulley, then slowly release and remove the spanner.
5. The belt automatically adjusts when the engine is started.

Likewise, when *removing* the belt, you must relieve the tension on the belt using a spanner in the same way as for replacement.



without air cond.



with air conditioning

Supercharged engines only

Two exterior belts are used; an accessory belt (see above) and a supercharger belt.

The supercharger belt is fitted *after* the accessory belt has been fitted.

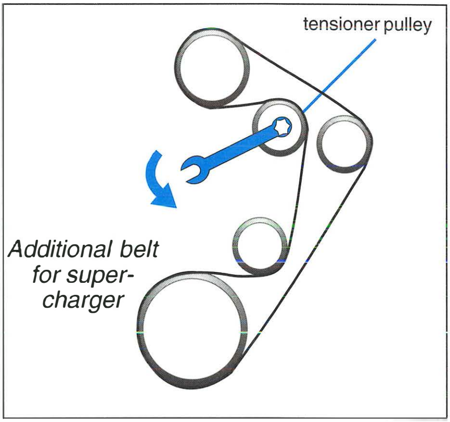
Feed the belt over the pulleys as shown, except for the tensioner pulley. Ensure that the belt is correctly installed around the pulleys.

Put a 15 mm ring spanner over the bolt in the centre of the tensioner pulley. Move the spanner anticlockwise to relieve belt tension.

Slip the belt over the tensioner pulley, then slowly release and remove the spanner.

The belt automatically adjusts when the engine is started.

Please note that these belts have been specially designed. A replacement belt must be specifically for the application, i.e. a supercharger belt must be used for the supercharged engine, and must follow the routing shown.



Additional belt for super-charger

BULB REPLACEMENT

Notes when replacing bulbs:

- Always turn off the related switch.
- It is important to fit only bulbs of the specified wattage.
- Do not touch new bulbs or reflectors with bare hands. Greasy fingers cause stains which evaporate, eventually resulting in a dull reflector. Grease spots on Halogen bulbs will, within a short time, lead to bulb failure. Inadvertently stained bulbs may be cleaned with methylated spirits.

Front lights

To gain access if replacing a bulb on the driver's side: undo the battery clamp, remove the battery retaining plate and slide the battery out of the way toward the rear of the vehicle. If the vehicle has a V8 engine and is fitted with a larger battery, the battery terminals must be disconnected, and the battery completely removed from the vehicle.

Note: After replacing the bulb on the driver's side, remember to replace and connect the battery.

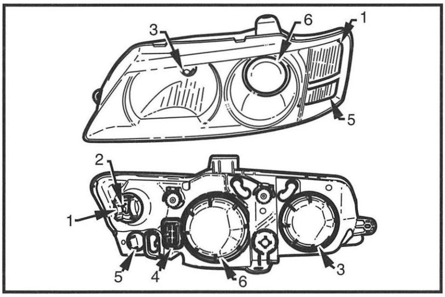
To gain access if replacing a bulb on the passenger's side of a vehicle with a V6 engine: Pull the coolant filler bottle neck to remove it, and place it to one side.

Note: After replacing the bulb on the passenger's side of a vehicle with a V6 engine, remember to replace the coolant filler bottle neck.

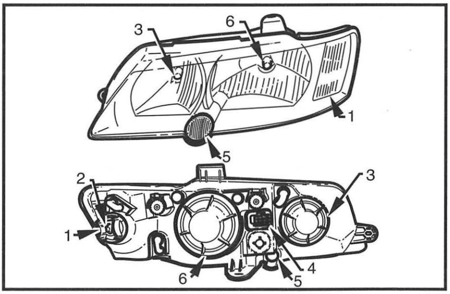
To gain access if replacing a bulb on the passenger's side of a vehicle with a V8 engine: the radiator cover must be removed (four screws). A hole is provided in the air intake duct through which bulbs can be accessed.

Note: After replacing the bulb on the passenger's side of a vehicle with a V8 engine, remember to install the radiator cover (four screws).

If unsure of the bulb replacement process for the front lights, please have the work carried out by a competent mechanic.



Higher luxury models



All other models

Front lights:

1. Turn signal lamp.
2. Turn signal wiring connector.
3. Headlights inboard high beam.
4. Headlight wiring connector.
5. Park lights.
6. Headlight outboard low beam.

BULB REPLACEMENT cont.

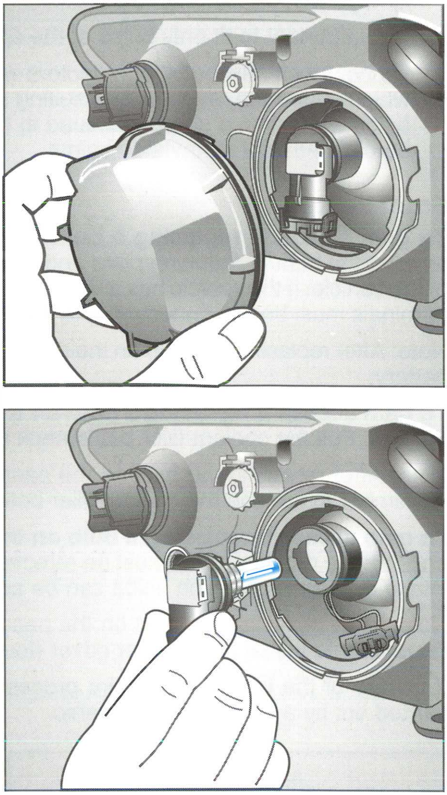
Headlights – outboard low beam

1. Open the bonnet. Refer to 'Front lights' on page 6-23 for access instructions.
2. Turn the outboard dust cap anticlockwise and remove from the rear of the headlight assembly.
3. Remove the wiring harness connector:
    - On higher luxury model vehicles (H11 – 55 Watt bulb), squeeze the two tangs on the harness connector and pull the connector down.
    - On other models (H4 – 60/55 Watt bulb), simply pull the wiring harness connector from the rear of the bulb.
4. Remove the bulb:
    - On higher luxury model vehicles (H11 – 55 Watt bulb), simply twist the bulb anticlockwise to remove.
    - On other models (H4 – 60/55 Watt bulb), press and unclip the spring clip retainer at both sides and pivot clear of the bulb, then remove the bulb.
5. Install the new bulb.

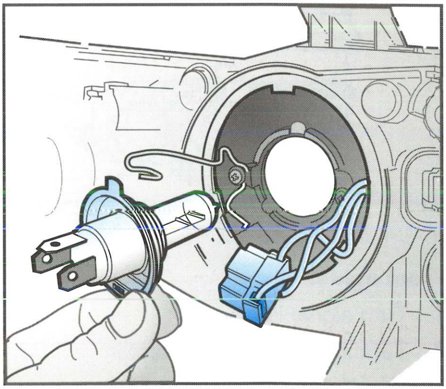
    Note: Do not touch the new bulb with your fingers. If accidentally touched, wipe the bulb immediately with methylated spirits.

    The different sized locating tangs on the bulb base allow the bulb to sit correctly into the reflector in one position only.

    - On higher luxury model vehicles (H11 – 55 Watt bulb), simply twist the bulb clockwise to install.
    - On other models (H4 – 60/55 Watt bulb), press the spring clip retainer at both sides and lock into position.
6. Install the wiring harness connector and dust cap (ensuring the rubber seal is in place).
7. Refer to 'Front lights' on page 6-23 for restoring instructions.
8. Check light operation.



Higher luxury models



All other models

BULB REPLACEMENT cont.

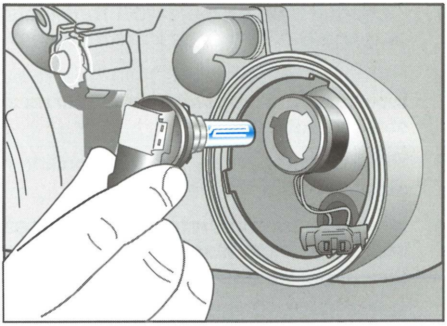
Headlights – inboard high beam

1. Open the bonnet. Refer to 'Front lights' on page 6-23 for access instructions.
2. Turn the inboard dust cap anticlockwise and remove from the rear of the headlight assembly.
3. Remove the wiring harness connector:
   - On higher luxury model vehicles (H9 – 65 Watt bulb), squeeze the two tangs on the harness connector and pull the connector down.
   - On other models (H1 – 55 Watt bulb), simply pull the wiring harness connector from the rear of the bulb.
4. Remove the bulb:
   - On higher luxury model vehicles (H9 – 65 Watt bulb), simply twist the bulb anticlockwise to remove.
   - On other models (H1 – 55 Watt bulb), press and unclip the spring clip retainer at both sides and pivot clear of the bulb, then remove the bulb.
5. Install the new bulb.

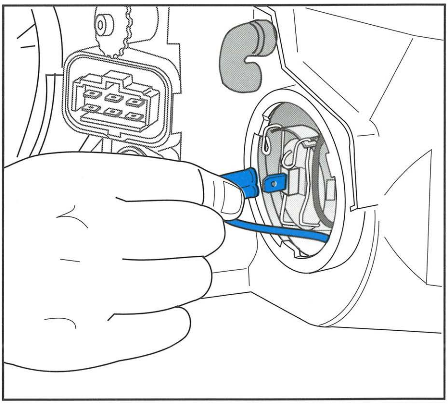
   Note: Do not touch the new bulb with your fingers. If accidentally touched, wipe the bulb immediately with methylated spirits.

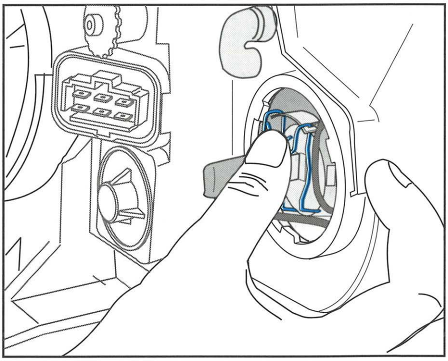
   The different sized locating tangs on the bulb base allow the bulb to sit correctly into the reflector in one position only.

   - On higher luxury model vehicles (H9 – 65 Watt bulb), simply twist the bulb clockwise to install.
   - On other models (H1 – 55 Watt bulb), press the spring clip retainer at both sides and lock into position.
6. Install the wiring harness connector and dust cap (ensuring the rubber seal is in place).
7. Refer to 'Front lights' on page 6-23 for restoring instructions.
8. Check light operation.



Higher luxury models



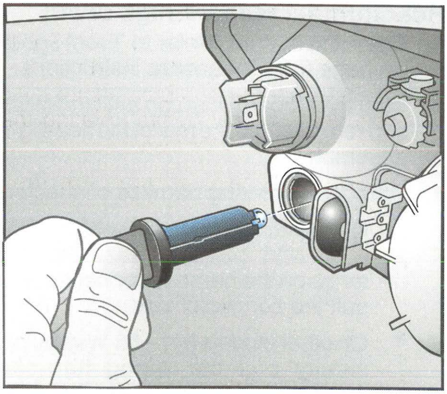


All other models

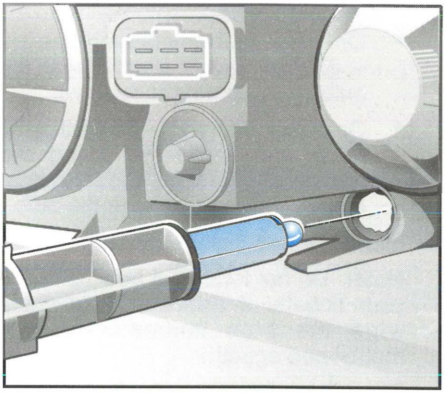
BULB REPLACEMENT cont.

Front park lights (5 Watts)

1. Open the bonnet. Refer to 'Front lights' on page 6-23 for access instructions.
2. Remove the park light bulb holder by turning it anticlockwise and pulling it straight out.
3. Remove the park light bulb by pulling it straight out of the holder.
4. Insert the new bulb into the holder, then install the holder and dust cap (ensuring the rubber seal is in place).
5. Refer to 'Front lights' on page 6-23 for restoring instructions.
6. Check light operation.



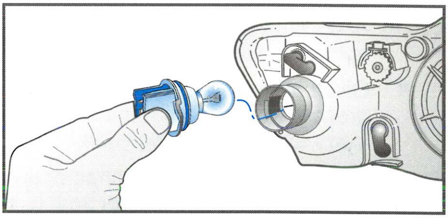
Higher luxury models



All other models

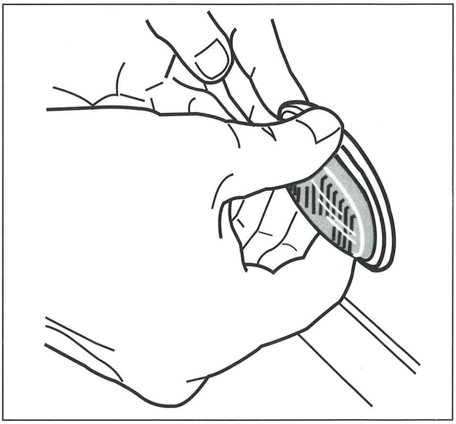
Front turn signal (21 Watts)

1. Open the bonnet. Refer to 'Front lights' on page 6-23 for access instructions.
2. Disconnect the wiring harness connector.
3. Turn the bulb holder anticlockwise and remove.
4. Lightly press the bulb and twist anticlockwise out of the holder.
5. Insert the new bulb and install the bulb holder. Note that the bulb should be coloured orange.
6. Connect the wiring harness connector.
7. Refer to 'Front lights' on page 6-23 for restoring instructions.
8. Check light operation.



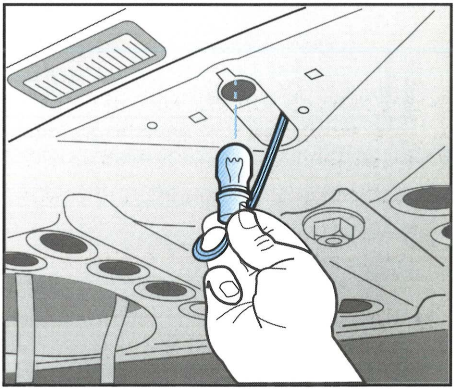
BULB REPLACEMENT cont.

Side turn signal (5 Watts)



1. Grasp the lens at the rear, push forwards and pull away from the body of the vehicle. Separate the bulb holder from the lens assembly by first rotating the bulb holder anticlockwise.
2. Disconnect the wiring harness connector.
3. The bulb pulls straight out of the bulb holder.
4. Insert the new bulb into the bulb holder. Install the bulb holder into the lens housing. Note that the bulb holder only fits into the lens housing one way. Therefore, keep turning the bulb holder clockwise until it fits into place and can be tightened.
5. Connect the wiring harness connector.
6. When inserting the light, first locate the rear of the housing into the body before pushing the front inwards to engage the clip.
7. Check light operation.

Rear high stop light (18 Watts) – sedan



Note: It may be necessary to use a pair of pointed nose pliers to hold and release the bulb socket.

1. From the boot, reach under the stop light and twist the bulb holder to remove it.
2. The bulb pulls straight out of the bulb holder.
3. Install the new bulb into the bulb holder, then fit the bulb holder back into the stop light.
4. Check light operation.

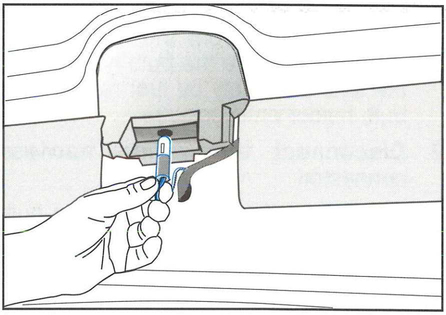
Note: If your sedan has a high stop lamp in the rear spoiler it is recommended that bulb replacement be carried out by your vehicle dealer.

Rear high mount stop light – utility (if fitted)

Your vehicle is fitted with a sealed high mount stop light. For replacement, contact your nearest Holden Retailer.

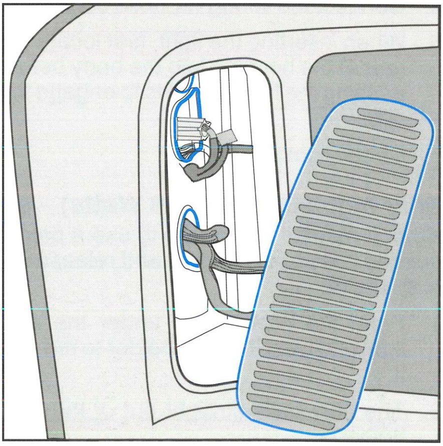
BULB REPLACEMENT cont.

Rear high stop light (18 Watts) – wagon



1. Open the tailgate and remove the cover at the rear of the high level stop light (two scrivets).
2. From inside the cavity of the stop light, twist the bulb holder anticlockwise. Pull the bulb holder out of the cavity.
3. The bulb pulls straight out of the bulb holder. Install the new bulb in the bulb holder, then install the holder into the stop light cavity.
4. Replace the cover.
5. Check light operation.

Rear turn signal (21 Watts), stop / tail (21/5 Watts), reverse (21 Watts) – wagon

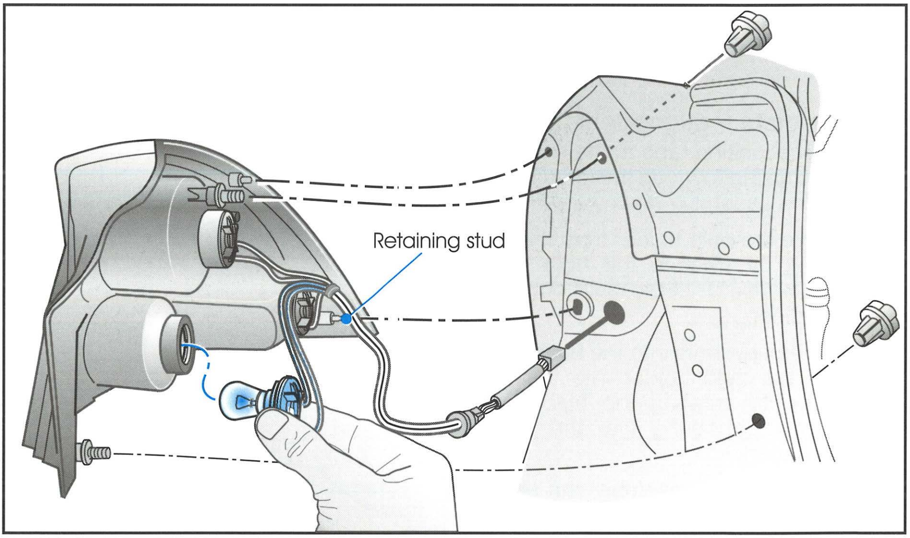


1. Open the tailgate.
2. Carefully remove the rear light trim cover with a flat-blade screwdriver.
3. Rotate the required bulb holder anticlockwise and pull outwards. The bulb holders are colour coded as follows, and the sequence from the top downwards is:
   - Turn signal (orange)
   - Reverse (grey)
   - Stop / Tail (black)
4. Lightly press the bulb and rotate anticlockwise to remove from holder.
5. Install the new bulb in the holder.
6. Install the bulb holder into the vehicle.
7. Install the cover.
8. Check light operation.

BULB REPLACEMENT cont.

Rear turn signal (21 Watts), stop/tail (21/5 Watts), reverse (21 Watts) – sedan

1. Open the boot.
2. Remove the clip securing the boot lining, release the boot lining flap from the metal flange, and pull the lining away to reveal the rear of the lamp.
3. Remove the top lamp and second lamp attaching nuts by hand.
4. Grasp the lamp assembly and pull it rearward away from the body of the vehicle to release the retaining stud and gain access to the bulb holders.
5. From the rear of the assembly, turn the bulb holder anticlockwise to release it from its housing.
6. Remove the bulb from the holder by pushing it in and turning it anticlockwise.
7. Install the new bulb into the bulb holder by pushing it into the holder and turning it clockwise.
8. Install the bulb holder into the lamp and return the lamp assembly to the body, ensuring that all studs are aligned with the correct holes. Push on the outside corner of the assembly to lock it into place.
9. Tighten all nuts to 1.5 – 2.0 Nm to ensure that the exterior seal is even with the panel, then reattach the boot lining and clip.
10. Check light operation.

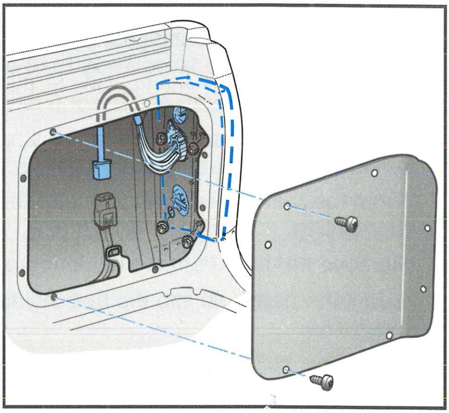


Fog lights (if fitted), instrument panel lights, vanity mirror lights (if fitted), high mounted stop lights mounted in the rear spoiler (if fitted)

Bulb replacement for these light assemblies should be carried out by a Holden Retailer.

BULB REPLACEMENT cont.

Rear turn signal (21 Watts), stop / tail (21/5 Watts), reverse (21 Watts) – utility

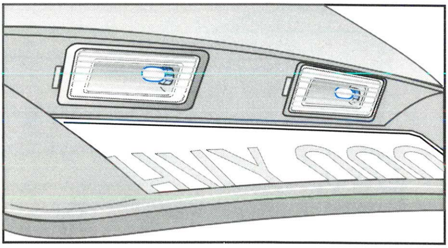


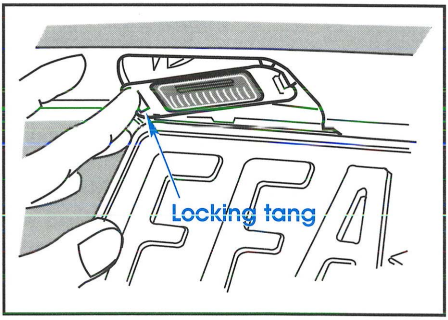
1. Open the tailgate.
2. From inside the rear tray, remove the rear light cover screws and remove the rear cover.
3. Rotate the required bulb holder anticlockwise and pull outwards.

   The bulb holders are colour coded as follows, and the sequence from the top downwards is:

   - Turn signal (orange)
   - Reverse (grey)
   - Stop / Tail (black)
4. Lightly press the bulb and rotate anticlockwise to remove from the holder.
5. Install the new bulb in the holder.
6. Install the bulb holder into the lamp assembly by rotating it clockwise.
7. Install the cover and cover screws.
8. Check light operation.

Number plate – all models (5 Watts)



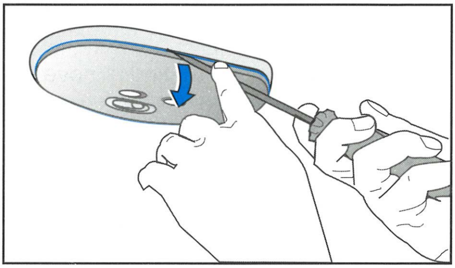


1. Push the locking tang at the end of the lamp housing towards the lens and pull the lamp assembly downwards.
2. Remove the bulb holder from the lamp housing by rotating the bulb holder anticlockwise. Pull the bulb out of the bulb holder.
3. Push the new bulb into the bulb holder. Install the bulb holder into the lamp housing by rotating the bulb holder clockwise, ensuring that the seal is undamaged.

   Note: The lamp assembly can only be fitted into the licence plate surround in one direction.
4. Install the lamp assembly into the surround.
5. Check light operation.

BULB REPLACEMENT cont.

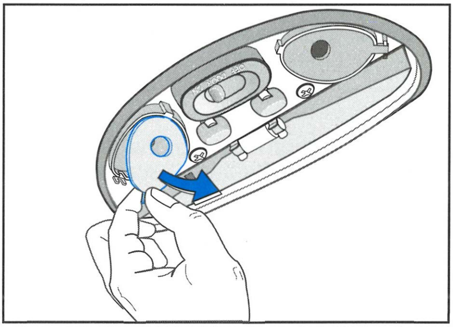
Interior dome (10 Watts)



1. Insert a fine bladed screwdriver into one of the notches on the lens and gently prise the lens away from the lamp assembly. Use the screwdriver in the other three notches to remove the lens.
2. Remove the bulb by bending the contacts out from the bulb while pulling the bulb down.
3. Install the new bulb and ensure that both ends of the bulb are firmly in place.
4. Carefully install the lens to the assembly, ensuring that it snaps into place. Check that the lens is flush with the lamp assembly.

Front reading – dome (8 Watts)

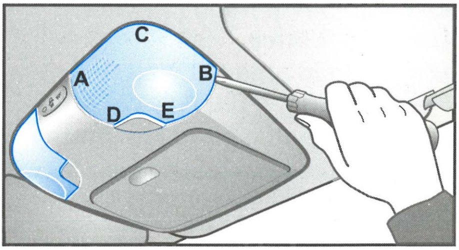
Front reading lights for some models of vehicle are fitted in the dome light assembly.



1. Remove the lens of the dome light, as described for the interior dome light.
2. Remove the reading light cover plates by gently pulling the thin tab down.
3. Pull out the bulb by hand.
4. Install the new bulb and ensure that both ends of the bulb are firmly in place.
5. Install the cover plates (large end in first) and click firmly into place.
6. Install the dome lens and push back into place with your hand.

Front reading – centre (10 Watts)

The front reading lights for higher luxury model vehicles are part of the sunglasses holder assembly located centre-front of the roof's interior.



1. Loosen the cover of the reading light by levering with a fine blade screwdriver at point A and then point B, as shown.
2. To remove the cover, pull it downwards from point C to disengage the retaining clips at points D and E.
3. Carefully press the bulb and rotate it anticlockwise to remove it.
4. Install the new bulb by carefully pushing it into the holder and rotating it clockwise.
5. Install the cover by first inserting the edge at points D and E, then clipping it back into place at point C.

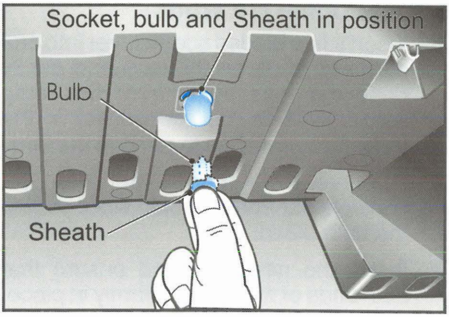
BULB REPLACEMENT cont.

Footwell lights, if fitted (2.7 Watts)

Front footwell light bulbs are located on either side of the vehicle in the following locations:

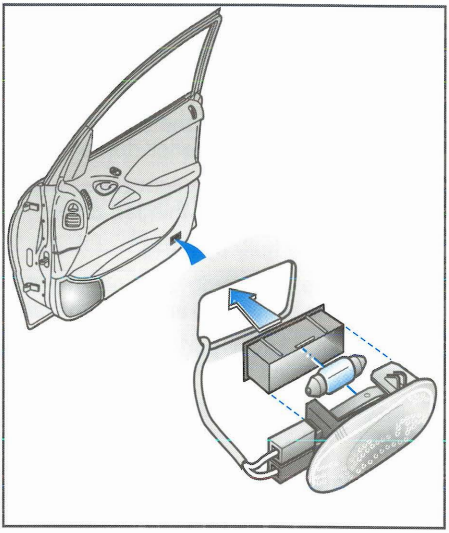
- On the driver's side in the hinge panel assembly.
- On the passenger's side in the hush panel assembly.

1. Twist the socket and pull down away from the panel assembly.
2. Pull the sheath off the bulb and pull the bulb from the socket.
3. Insert a new bulb into the socket and fit the sheath to the bulb.


Socket, bulb and Sheath in position
Bulb
Sheath

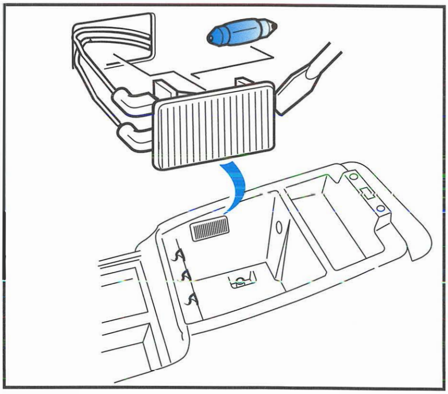
Door lights, if fitted (5 Watts)

1. Gently prise away the lens housing with a fine flat-bladed screwdriver at the side tabs and pull the lamp assembly from the door trim.
2. Squeeze both sides of the back metal cover and pull away to expose the bulb.
3. Pull the tab holding the bulb (opposite end to wiring) backwards and pull the bulb out. To install the new bulb, first pull tab backwards. When the new bulb is in place, fit the back metal cover, feed the wiring back into the cavity and push the lamp assembly back into place.



Glovebox (5 Watts)
Console bin, if fitted (5 Watts)
Boot (10 Watts)
Wagon load area (10 Watts)
Rear reading, if fitted (6 Watts)
Under bonnet, if fitted (10 Watts)

1. Gently prise away the lens housing with a fine flat-bladed screwdriver.
2. Pull the tab holding the bulb (opposite end to wiring) backwards and pull the bulb out. To install the new bulb, first pull tab backwards. When the new bulb is in place, feed the wiring back into the cavity and push the lens housing back into place.



NOTES

CHAPTER 7

Weekly checks

Page

7-2 Miscellaneous checks
7-3 Check locations
7-4 Engine oil level check
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7-8 Auto trans. fluid level check
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7-15 Battery
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MISCELLANEOUS CHECKS

As well as taking your vehicle to be serviced (refer to the service booklet in your glovebox) there are a few simple, weekly checks that the owner / operator is required to make. These are shown on the following pages.

WARNING:

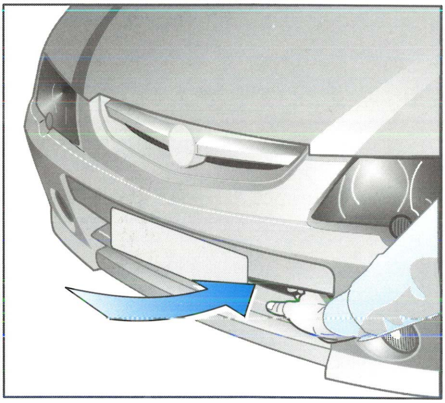
- The engine cooling fan can start working unexpectedly, even when the engine is not running. To avoid injury from the fan, make sure the ignition key is switched OFF, so that the fan cannot start operating.
- Electronic ignition systems have a high ignition power. Do not touch the ignition system; this could be highly dangerous.

The following checks should also be regularly done to ensure safety of your vehicle.

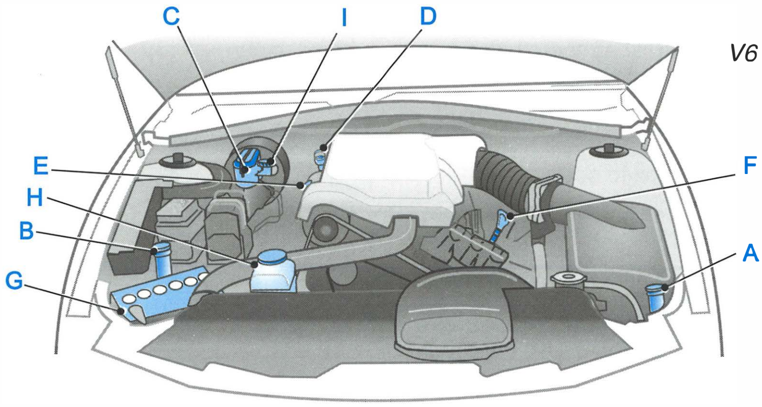
Check:

- that all exterior lights are working and that their appropriate interior indicators light up,
- mirrors and glass are clean and not scratched,
- automatic transmission T-bar indicator correctly lines up next to the gear selected,
- demister operates,
- horn works,
- condition and operation of all seat belts and check that buckles are clean and operating correctly. Remember that seat belts must never be worn twisted.

On 'S' sedans, 'SS' sedans and 'SS' utilities: Check the air intake area below the front bumper for the build-up of leaves and road grime, which will impair engine cooling efficiency of the vehicle. It is recommended that this area also be cleared of debris whenever you wash your vehicle.



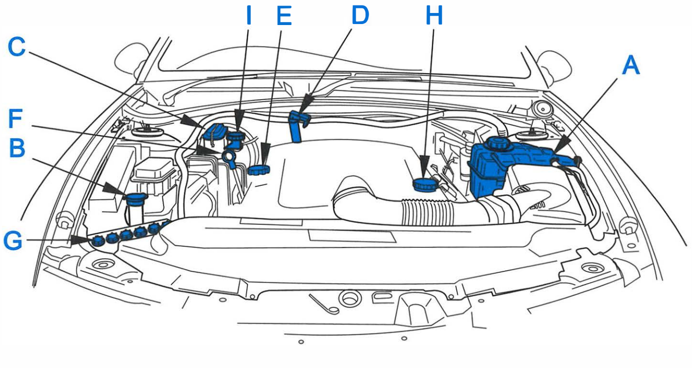
CHECK LOCATIONS



V6 engine

A	Engine coolant	page 7-6
B	Windscreen washer fluid	page 7-9
C	Brake fluid	page 7-10
D	Dipstick for automatic transmission	page 7-8
E	Engine oil cap	page 7-4
F	Dipstick for engine oil	page 7-4
G	Battery	page 7-15
H	Power steering fluid	page 7-12
I	Clutch fluid	page 7-11

V8 engine



ENGINE OIL LEVEL

To check the level

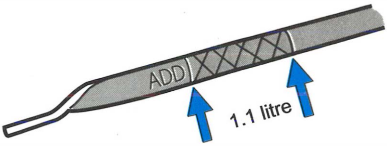
- The oil level should be checked weekly.
- Check the level when the oil is warm, such as when stopping for fuel.
- The vehicle must be on level ground.
- After switching off the ignition wait a few minutes for the oil to settle.

The level is checked from the dipstick. Refer to the diagram on page 7-3 for location.

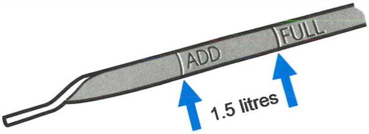
Remove the dipstick and wipe it clean with a clean cloth or paper towel. Insert the dipstick firmly all the way down, pause for a second then withdraw the dipstick and look at the oil level on it.

If the level is lower than the ADD mark, top up with enough oil to reach the FULL mark. Be careful not to add too much, as the reading should never be over the FULL mark.

V8 engine



V6 engine



To add oil

Refer to page 8-2 for engine oil specification.

To add oil, turn the oil cap anticlockwise and remove (refer to page 7-3 for location). Pour the required oil into the opening (clean up any spilled oil). Wait a few minutes for the oil to settle. Then check the oil level with the dipstick again. If still too low, add more oil.

When correct, screw the cap back on tightly and replace the dipstick. If you check the oil level when the oil is cold do not run the engine first, as the cold oil does not drain back into the oil pan fast enough to give an accurate reading.

Note: Non-detergent and other low quality oils are specifically not recommended. The use of break-in oil, tune up compounds, friction reducing compounds and other supplemental additives are not recommended. Their use increases costs, may be detrimental to the operation of your vehicle and may void your New Vehicle Warranty, to the extent that Holden considers the non-recommended fluid to have affected the specifications or quality of your Holden vehicle.

Oil change intervals

Refer to the service booklet in your vehicle's glovebox for servicing requirements, particularly *abnormal* driving conditions.

ENGINE OIL CONSUMPTION

Every internal combustion engine uses a certain amount of oil, especially when running-in. The engine is dependent on oil for lubricating critical areas, such as the cylinder walls, pistons, rings and valve stems. These parts are all subjected to high friction loads and will prematurely wear out without a constant supply of engine oil. A thin film of oil is left on the cylinder walls, some of which is carried into the combustion chamber and burnt during the combustion process. This also applies to the film of oil on the valve stems which is drawn into the combustion chamber and burnt.

There are several other factors that contribute to the rate of oil consumption in your engine: the way in which the vehicle is operated; the quality and grade of oil; the oil level and dilution of the oil; worn pistons, rings, valve stems and guides.

Operation of the vehicle: High speed driving and heavy towing increases engine temperature, which lowers oil viscosity, causing more oil to reach the combustion chamber and get burnt away. The oil level should always be checked prior to towing or a long trip.

Quality and grade of oil: Oil viscosity is a significant factor in oil consumption. If you use an oil which is too 'thin' (low viscosity) your oil consumption will increase. Use only the recommended grades of oil.

Oil level: Maintaining a proper oil level is also an important factor in controlling oil consumption. An over-full engine will splash oil onto the cylinder walls in quantities greater than the piston rings can control. This excess oil is drawn into the combustion chamber and burnt, or may result in aeration of oil in the sump causing damage to the engine.

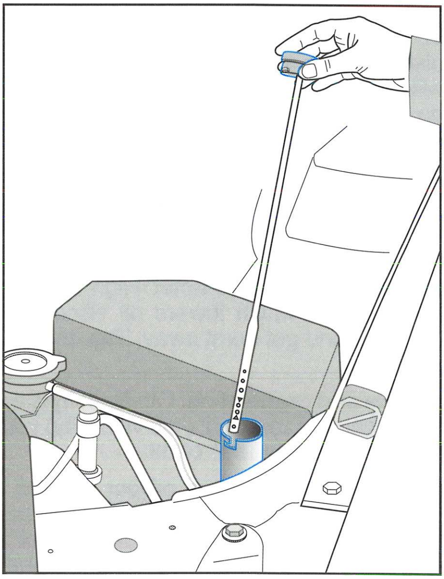
Dilution: Probably the most prevalent complaint of oil consumption comes from the driver whose vehicle is frequently driven on short trips where the engine often fails to reach normal operating temperatures. The oil becomes diluted by fuel and moisture that settles in the oil pan. This may raise the oil level creating a false reading on the oil level dipstick. For example, in a vehicle that has accumulated 1,500 km of short distance or intermittent city operation and has consumed a normal amount of oil, the level may not have dropped from the FULL mark, due to dilution. If this vehicle is driven for some distance at highway speeds on a warm day, the dilution elements evaporate lowering the oil level. This sudden change in oil level can give the driver the impression that an excessive amount of oil has been 'lost' in the highway operation.

Measuring oil consumption: A simple consumption test can be performed if the driver is concerned by an apparent drop in the oil level.

Add sufficient oil to bring the level up to the 'FULL' mark on the dipstick (avoid overfilling). Take note of the odometer reading and check the oil periodically. When the level reaches the 'ADD' mark, carefully measure the amount of oil required to return the level back to 'FULL' and note the odometer reading. The amount of oil added for the kilometres travelled over the duration of the test indicates the oil economy of the engine. Remember to check the oil level at the start and finish of the test on level ground and allow time for oil to drain down (i.e. wait approximately 10 minutes after engine is turned off). Avoid minor top-ups (0.25 to 0.5 litres) when measuring oil consumption, as inaccuracies of oil quantity added, may cloud the result.

If, after taking into account the above factors, you are still concerned that your engine has excessive oil consumption then you should discuss the situation with a Holden Retailer. Remember that an engine's oil consumption should not be judged until it has run at least 10,000 km.

ENGINE COOLANT LEVEL – V6 ENGINE



The coolant level should be checked at least weekly. The cap for the coolant reservoir is yellow and has the word 'COOLANT' marked on the top. It is located in the engine compartment, behind the passenger's side headlight.

Ensure the ignition is switched off. Turn the coolant dipstick cap one eighth of a turn anticlockwise and slowly pull out the dipstick.

There are two triangles on the dipstick, representing MAXIMUM and MINIMUM fluid levels.

When the engine is cold, the coolant level should be at or above the MINIMUM triangle mark on the dipstick. After the vehicle has been driven and the engine is at normal operating temperature, the level should be somewhere between half full and the MAXIMUM triangle mark.

If the coolant level is correct, replace the dipstick and turn the cap one eighth of a turn clockwise to secure.

The coolant in your vehicle conforms to Holden specifications. The coolant can be purchased from a Holden Retailer. Failure to use the coolant meeting Holden specifications or maintaining the specified concentration may result in voiding your warranty.

If the coolant requires topping up, mix a solution of Holden coolant and clean fresh water in a container as per the ratio specified in Chapter 8 'Specifications'. Pour the fluid into the dipstick tube (the same opening as the dipstick is stored in). Again check the level with the dipstick and add further fluid if necessary. When the level is correct, replace the dipstick and turn the cap one eighth of a turn clockwise to secure. Note that the dipstick should only be replaced one way. The word 'COOLANT' on the cap should be able to be read from the front of the vehicle. If the wording is facing the rear of the vehicle the dipstick should be turned 180 degrees and then secured.

In emergency situations, plain clean water may be used temporarily until the correct Holden coolant is obtained (as soon as possible) from the nearest Holden Retailer.

The specified coolant works in three ways: it contains special corrosion inhibitors, it helps the cooling system in hot weather by increasing the boiling point and it protects against freezing down to –37°C, provided the specified concentration is maintained.

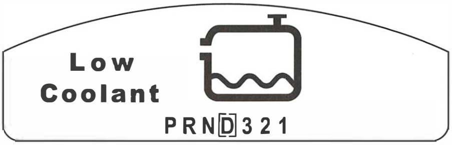
If you regularly have to top up the cooling system you should see your Holden Retailer.

WARNING:

Corrosion inhibitors and antifreeze fluids are poisonous. Use extreme care when handling. If swallowed, seek medical attention. Do not remove the radiator cap or plastic coolant tank cap if the engine and radiator are still hot. Scalding fluid and steam can be blown out under pressure which could cause serious burns.

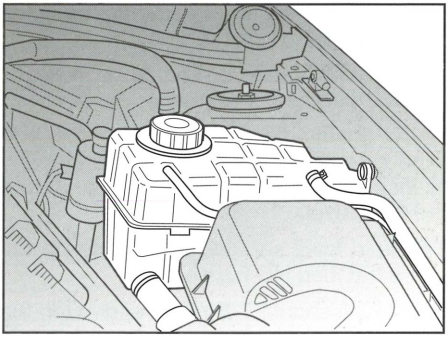
Refer to Chapter 6 if engine overheats or loses a lot of coolant.

COOLANT LEVEL– V8 ENGINE



Your vehicle provides a low coolant warning in the instrument panel centre display, refer to 'Warnings and Reminders' in Chapter 1 for more details.

If the 'Low Coolant' animation illuminates while driving, it indicates that the engine coolant level is dangerously low. You should check the level as soon as possible. As this may involve checking the level when the coolant is hot, refer to the instructions in 'Overheating' in Chapter 6 and the relevant warnings in that chapter.



Regardless of the low coolant warning, the coolant level should be checked at least weekly, by looking at the level in the plastic tank when the engine is **cold**. For ease of location, the coolant cap is coloured yellow.

The coolant level should be at or slightly above the 'COLD FILL' mark at the centre weld joint when the engine is cold. The level rises when the engine is running and drops again when the engine cools down. If the level falls below the weld joint, coolant should be topped up to a little over the mark. Do not overfill, as coolant requires space to expand when warmed up.

The coolant in the V8 engine conforms to Holden specifications, and can be bought from your Holden Retailer. Failure to use the coolant meeting Holden specifications or maintaining the specified concentration may result in voiding your warranty.

If the coolant requires topping up, mix a solution of Holden coolant and clean fresh water in a container as per the ratio specified in Chapter 8 ‘Specifications’. Then, when the engine is cold, undo the cap and pour the fluid into the plastic tank. When the level is correct, replace the cap and turn clockwise until secure.

In emergency situations, plain clean water may be used temporarily until Holden specification coolant is obtained (as soon as possible) from the nearest Holden Retailer.

The specified coolant works in three ways: it contains special corrosion inhibitors, it helps the cooling system in hot weather by increasing the boiling point and it protects against freezing down to –37°C, provided the specified concentration is maintained.

WARNING:

Corrosion inhibitors and antifreeze fluids are poisonous. Use extreme care when handling. If swallowed, seek medical attention. Do not remove the coolant cap if the engine and radiator are still hot. Scalding fluid and steam can be blown out under pressure which could cause serious burns.

Refer to 'Overheating' in Chapter 6 if the low coolant warning shows or if the engine overheats or loses a lot of coolant. If you regularly have to top up the cooling system you should see your Holden Retailer.

AUTOMATIC TRANSMISSION LEVEL

The fluid level should be checked monthly, by looking at the fluid level on the dipstick.

The dipstick handle is located at the rear of the engine compartment, on the driver's side (refer to diagram on page 7-3).

Dirt in the transmission can cause breakdowns, so be careful when checking or adding fluid.

The fluid should be checked after the vehicle has been driven for at least 20 kilometres so that the fluid is hot.

The vehicle must be standing on level ground with the engine running.

The gear shift selector should be in PARK and the park brake applied.

Unclip the handle and remove the dipstick; wipe it clean with a clean cloth or paper and re-insert it fully. Remove it again and read the fluid level.

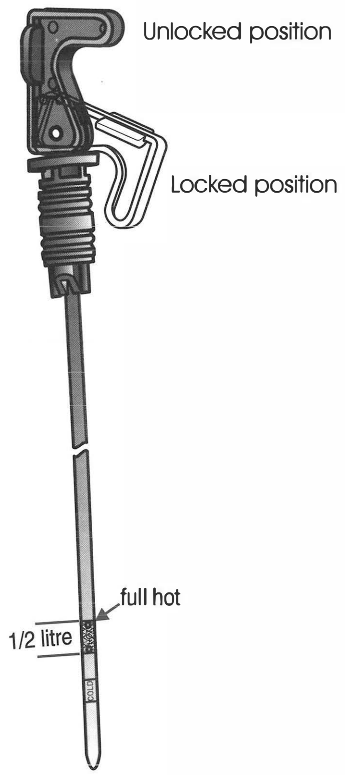
The fluid level should be showing on the cross hatched HOT area.

The level should NEVER read over the FULL HOT mark, so be careful not to add too much.

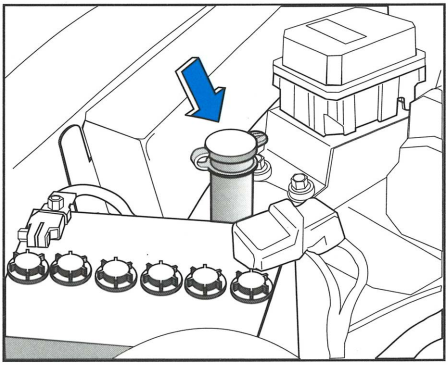
If adding fluid, use only Holden specified automatic transmission fluid (refer to Chapter 8 for the correct specification). Add the fluid in the dipstick tube (the same opening as the dipstick is stored in) and wait 1 minute for the oil to settle (clean up any spilled fluid). Again check the level on the dipstick with the engine running and add further fluid if necessary. Remember to always replace the dipstick and lock the handle down.

If fluid has to be added often, there may be a problem or leak and you should see your Holden Retailer.

Note: The cold markings on the dipstick should only be used as an indication when initially filling the transmission after the fluid has been completely drained. It should be rechecked when hot.



WASHER FLUID LEVEL



The washer container is located in the engine compartment, near the battery. It has a flip top yellow cap.

The container shown supplies water to both the front windscreen washer and rear wagon washer.

As washer fluid is constantly used the level should be topped up weekly.

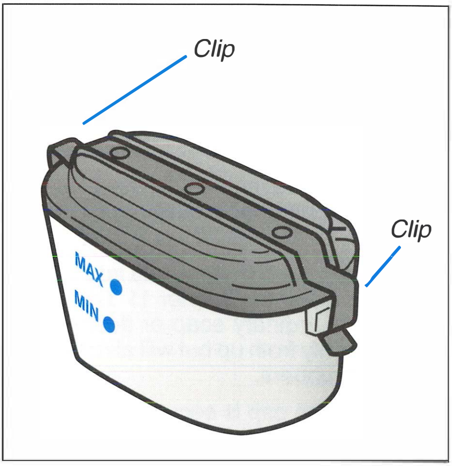
For a crystal clear windscreen, the correct amount of Holden washer fluid additive can be added (refer to Chapter 11 'Cleaning'). Do not use ordinary soap or detergent as these not only froth up but will also damage the wiper rubbers.

Make sure the cap is secured.

BRAKE FLUID LEVEL

WARNING:
Brake fluid is poisonous and corrosive and will damage the paint finish of your vehicle if spilt.

The brake fluid level in the master cylinder should be checked weekly. The fluid level, is visible through the master cylinder (see page 7-3 for location) and should be maintained between the MIN and MAX level markings. If the fluid is between these levels do not remove the master cylinder cap, as brake fluid exposed to the atmosphere will quickly absorb moisture.



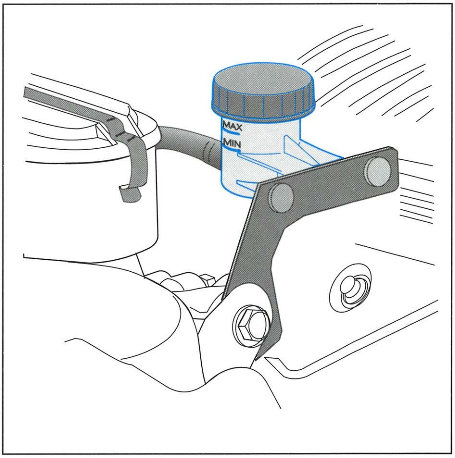
If fluid does need to be added, first ensure that the ignition is switched OFF. Wipe clean the sides of the top cover. Then, unclip and lift off the top cover. Top up with heavy duty brake fluid which meets Holden specifications (refer to Chapter 8 for the correct specification). Remember to secure the cap at each end and clean up any spilled fluid.

Use only new brake fluid. Use of old, used or inferior brake fluid may endanger the functioning of the brake system.

If the master cylinder requires constant topping up it could indicate that a fault exists and you should immediately see your Holden Retailer.

CLUTCH FLUID LEVEL

WARNING:
Clutch fluid is poisonous and corrosive and will damage the paint finish of your vehicle if spilt.



The clutch fluid level should be checked weekly. The fluid level, is visible through the container and should be maintained between the MIN and MAX level marks. If the fluid is between these levels do not remove the cap, as the fluid will quickly absorb moisture if exposed to the atmosphere.

If fluid does need to be added, first ensure that the ignition is switched OFF. Wipe clean the sides of the cap and remove the cap. Top up with heavy duty brake fluid (both the clutch system and the brake system use **brake** fluid) which meets Holden specifications (refer to Chapter 8 for the correct specification). Remember to replace the cap and clean up any spilled fluid.

Use only new fluid. Use of old, used or inferior fluid may endanger the functioning of the clutch system.

If the clutch fluid requires constant topping up it could indicate that a fault exists and you should immediately see your Holden Retailer.

POWER STEERING FLUID LEVEL

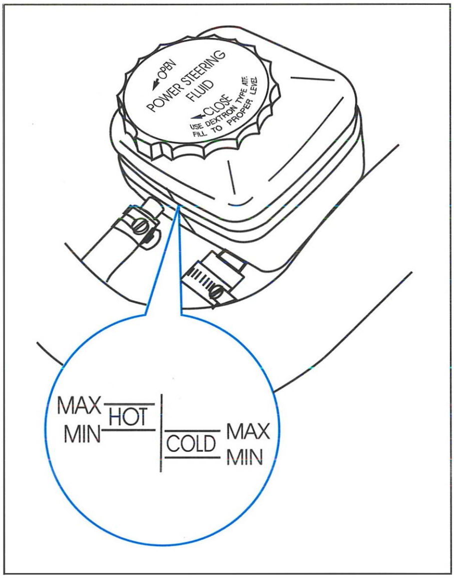
The level should be checked after the vehicle has been driven for a while (at least 20 minutes) so that the fluid is warm. A convenient time is when stopping for petrol. The cold level check should only be used after the engine has not been running for at least 5 hours. However, the hot level check is always recommended.

Refer to page 7-3 for location of the reservoir.

V6 engines

The fluid level can be viewed through the transparent reservoir. The level markings are on the rear of the reservoir.

When the fluid is cold the level should be between the COLD MIN and MAX marks; when the vehicle has been driven for a while and the fluid is hot the level should be between the HOT MIN and MAX marks.

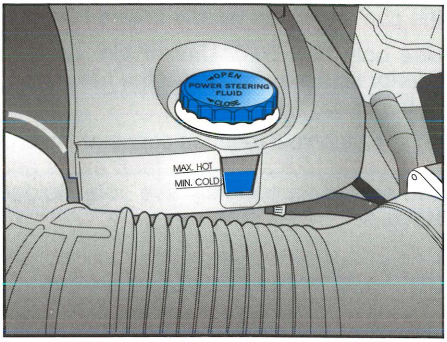


V8 engines

The fluid level can be viewed through the transparent reservoir. The level markings are next to the fluid window.

When the engine is hot the level should be between the MAX HOT and half way to the MIN COLD mark.

If the level is getting close to the MIN COLD mark when the engine is cold, add enough fluid to bring the level to half way between the two marks.



All engines

If fluid must be added, undo the cap anticlockwise to the safety 'stop'; push down on the cap and turn it further anticlockwise, until the cap can be lifted off.

Refer to Chapter 8 ‘Specifications’ for the correct power steering fluid to use.

Do not over fill and remember to replace the cap tightly. If you often need to add fluid, you should see your Holden Retailer.

Remember to secure the cap when the level is correct and clean up any spillage.

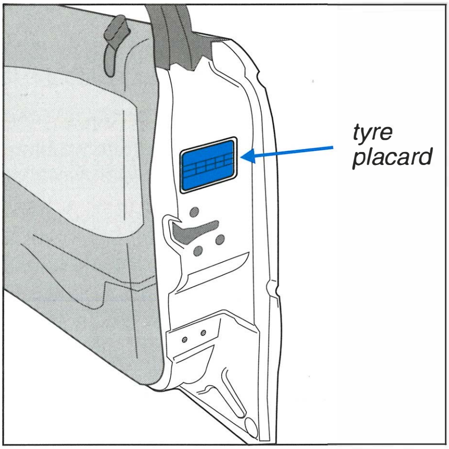
TYRES

Air pressure

Weekly checking of the air pressure of your tyres (including the spare) ensures your safety, as well as reducing fuel consumption and increasing the life of your tyres. For constant long distance or rough road driving, daily checking is recommended.

The correct pressure for your tyres is shown on the tyre placard located on the driver's door.

If the vehicle is heavily loaded or if LPG is fitted, the recommended pressure for the tyres is increased (refer to the tyre placard on your vehicle). As the tyres are operating under greater load the weekly air pressure check becomes even more important.



Tyre inflation pressure increases when the tyres have been driven more than 2 km. Therefore, the pressure should be checked when the tyres have been stationary for over 3 hours. If they must be checked immediately after driving, increase the pressure shown on the placard by 10%.

The inflation pressure in the tyres should be increased according to the load on the vehicle. Therefore, if the vehicle is loaded to half the maximum payload (as shown in Chapter 10) then the tyres should be inflated half way between the minimum and maximum pressures given on the tyre placard.

Always use a tyre pressure gauge to check the tyres; simply looking at the tyres is not sufficient. Remember to replace any valve dust caps or extensions, as this stops dirt and moisture from fouling the valves. When checking the tyre air pressure, take a look at the condition of the tyre tread and inspect for stones or abnormal wear.

Vehicles driven for prolonged periods over rough roads, particularly in outback conditions, should use the cold tyre inflation pressure on the tyre placard for maximum load condition.

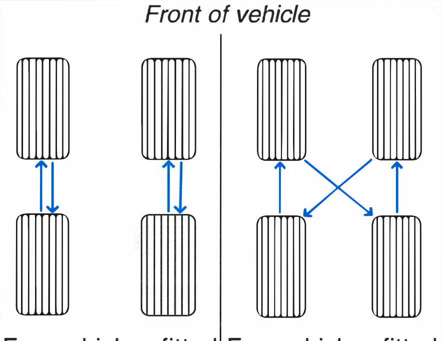
Tyre rotation

Front and rear tyres perform different jobs and can wear differently depending on the types of roads driven, your driving habits, wheel alignment / balance, tyre pressures etc.

Tyre condition is checked for you when you take your vehicle to be serviced by your Holden Retailer, who is able to diagnose any unusual signs of wear. If the tyres are rotated it is recommended that the balance be checked at the same time.

WARNING:

The forward rotation direction of the Uni-directional tyres must match the *Direction of Rotation ARROW* on the sidewall of the tyre.



For vehicles fitted with Uni-directional tyres, indicated by arrow on the tyre wall.

For vehicles fitted with Multi-directional tyres.

TYRES cont.

Alignment and balance

Improper wheel alignment can cause the tyres to wear faster and to wear unevenly. It can also cause the vehicle to pull to the left or right.

Out-of-balance wheels and tyres can cause annoying vibration and uneven tyre wear.

If you suspect either of the above problems exist have a wheel alignment and balance check carried out by your Holden Retailer.

Replacement and repair

Replacing your factory fitted wheels and tyres with non-specified wheels and tyres may affect your warranty as well as your insurance policy. Refer to the tyre placard on your vehicle for tyre size and load rating, see previous page. Using a different size or type of tyre may affect such things as ride, handling, speedometer, vehicle ground clearance, tyre clearance or snow chain clearance.

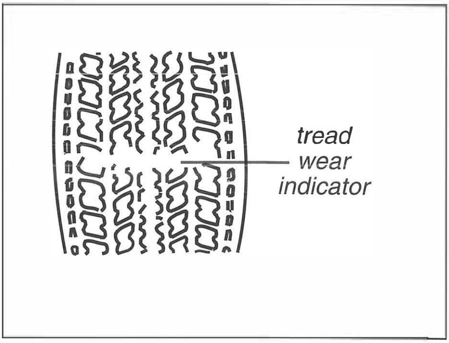
Take care when using tyres with heavy treads, including tyres made for better grip in the wet. At sustained high speeds, this type of tyre runs at higher temperatures than standard tyres and consequently should only be operated within the limits recommended by the manufacturer. Any doubts about the tyres on your vehicle should be referred to your Holden Retailer.

Tyres with a *higher* speed or load rating are acceptable, provided they are fitted to a suitable rim size.

New tyres should be fitted in pairs to the front. If replacing only one tyre, it should be paired on the same axle with the least worn of the other three.

You should replace your tyres when:

- The tyres are worn to the point where the tread indicators appear, or the cord or fabric is showing. The tyres originally fitted to your vehicle have built-in tread indicators. When only 1.5 mm of tread remains, these indicators show as plain bars across the tread pattern at regular intervals around the tyre.
- The tread or sidewall is cut, split, or cracked deep enough to expose the cord or fabric.
- The tyre has a bump or bulge in it, indicating some kind of internal damage.
- The tyre has a puncture, cut or other damage which can not be repaired because of the size or location of the damage.



Do not attempt to drive on the flat tyre more than is necessary to stop safely. Driving even a short distance can damage the tyre and wheel beyond repair. Tyres which have been repaired or retreaded are not capable of being driven safely at high speeds. Therefore, their use is not recommended.

BATTERY

WARNING:

- Batteries emit an explosive gas mixture which may be ignited. Therefore, you should keep sparks and flames away from the battery at all times. Never smoke near a battery.
- Batteries contain sulphuric acid. If acid contacts skin or clothing, flush immediately with a lot of water. In case of eye contact, flush with a lot of water and contact a doctor immediately. Battery acid also damages paint and fabrics. To minimise damage, wash off immediately.
- Take care with all metal objects and tools including items you may wear (e.g., jewellery, rings and metal watch bands) near battery terminals.

Fluid check

The fluid level of the battery will be checked for you when you take your vehicle to be serviced by your Holden Retailer. If your vehicle is operated in hot temperatures or at constant high speed the battery fluid level should be checked each month.

When checking the battery level, make sure the engine is not running. Each of the six cells must be individually checked. Use distilled water, as required, to keep the level just below the bottom of each split tube. DO NOT OVER FILL.

Vehicles with V8 engines have a battery cover to keep the battery cool. The cover should always be securely in place when driving.

Refer to Chapter 6 for emergency starting when the battery is flat.

Replacement batteries should be: Low Maintenance, 12 volt, 85 minutes Reserve Capacity / 430 Cold Cranking amps.

Battery disconnection

The battery is recharged by the alternator when the engine is running. If the engine is not run for approximately 6 weeks the battery will discharge, due to the power required by the security system etc. If the battery is disconnected it will discharge anyway after approximately 12 weeks.

If you disconnect the battery when leaving the vehicle for a long period of time, it is recommended that the battery be 'trickle fed' on a battery charger overnight, before replacing it in the vehicle.

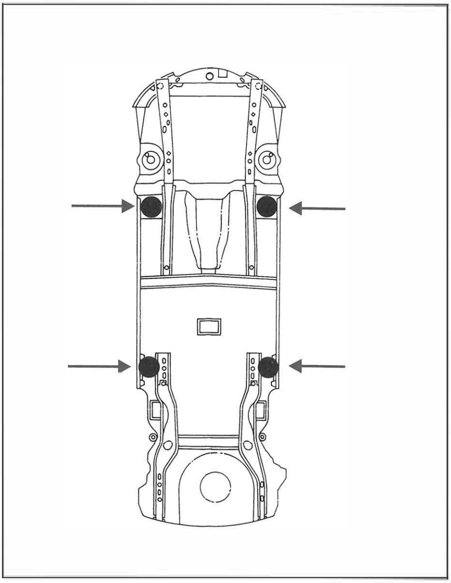
If the battery is disconnected for any reason:

- Some Trip Computer displays will be reset; trip time, trip distance, fuel used, average fuel, average speed and stop watch.
- Higher luxury vehicles fitted with the personal identity key system (refer to Chapter 2), the key may 'forget' some settings. Your adjustments will be remembered by the key next time you adjust the feature.

TROLLEY JACK LOCATIONS

You should always use the jack locations shown in Chapter 6 when using the original jack supplied with your vehicle. This jack has been designed to correctly and safely lift your vehicle, provided the warnings in Chapter 6 are observed.

However, if using a trolley jack to raise the vehicle, it is important that the jack be positioned under the suspension cross member or hoist pad locations. DO NOT JACK UNDER THE SUSPENSION CONTROL ARMS. The vehicle should always be supported by jack stands when raised.



NOTES

CHAPTER 8

Specifications

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8-2 Lubricants and fluids
8-2 Power and torque
8-2 Capacities
8-3 Body dimensions
8-4 Identification labels

GENERAL SPECIFICATIONS

Engine Type	V6		GENERATION III V8	
	ECOTECH	SUPERCHARGED	Standard Exhaust	Performance Exhaust
Engine capacity	3791 cc	3791 cc	5665 cc	5665 cc
Engine power	152 kW @ 5200 r.p.m.	*171 kW @ 5200 r.p.m.	225 kW @ 5200 r.p.m.	235 kW @ 5200 r.p.m.
Engine torque	305 Nm @ 3600 r.p.m.	*375 Nm @ 3200 r.p.m.	450 Nm @ 4000 r.p.m.	455 Nm @ 4000 r.p.m.
Engine oil specification	For optimum fuel economy, use SAE 10W/30 ILSAC GFC engine oil. If this oil is unavailable, use SG, SH or SJ engine oil, with viscosity of 20W/50 or 15W/40.**			
Refill engine oil capacity	5.6 litres approximately (including filter)		5.7 litres approximately (including filter)	
Coolant specification	50% clean fresh water and 50% coolant, conforming to Holden Specification Number HN 2043, Part Number 92140054 (1 litre) or 92140057 (5 litres). In addition, 3 pellets, Part Number 92140053 must be added when the coolant is replaced.		50% clean fresh water and 50% Dex-Cool conforming to GM 6277M specification	
Coolant capacity	12 litres approximately		14.3 litres approximately	
Automatic transmission fluid	Dexron® III			
Refill automatic transmission capacity	4.8 litres approximately		5 litres approximately	
Manual transmission fluid	Castrol VMX 80W (5 speed)	N/A	Dexron® III (6 speed)	
Brake and clutch fluid	Heavy duty brake fluid, conforming to Holden Specification Number HN 1796 (Super DOT 4)			
Power steering fluid	Dexron® III			
Fuel tank capacity	75 litres (sedan and wagon) 70 litres (utility), also refer to Chapter 5A and 5B			

* Power and Torque figures based on premium unleaded petrol

** Vehicles on LPG: refer to the service booklet in the glovebox for engine oil specification

GENERAL SPECIFICATIONS cont.

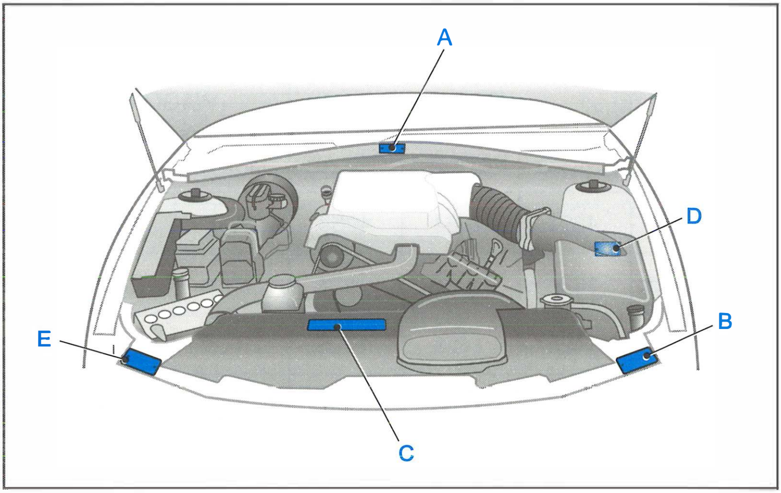
Dimensions (mm)

	SEDAN			WAGON		UTILITY
	EXEC.	BERLINA	CALAIS	EXEC.	BERLINA	ALL
Length	4891	4964	4964	5046	5084	5049
Width - excl. mirrors	1824	1824	1824	1824	1824	1845
Height	1425	1425	1425	1521	1521	1484
Wheel base	2788	2788	2788	2938	2938	2939
Overhang - front	933	972	972	933	972	933
Overhang - rear	1169	1203	1203	1174	1174	1178
Front track	1569	1569	1569	1569	1569	1569
Rear track	1587	1587	1587	1587	1587	1587

Body lubricants

Bonnet catch	NLGI No. 1 Lithium Grease (with Zinc Oxide) meeting Holden Specification HN 1225.
Door hinge grease	NLGI No. 1 Lithium Grease (with Zinc Oxide) meeting Holden Specification HN 1225.
Check link housing	NLG1 No. 2 Polyurea Grease (mineral oil base) 1.2 g applied to housing.
Check link arm	NLGI No. 2 Lithium Complex Grease 1.2 g applied to arm.
Front door lock cylinder	Powdered Graphite applied through key aperture DO NOT OIL.

IDENTIFICATION LABELS



Safety Compliance Plate (Australian vehicles) A

Shown on the plate are the vehicle Make, Model Series, Date of Manufacture, Vehicle Identification Number (VIN), approved seating capacity, Gross Vehicle Mass (GVM) on utility and Approval Number.

Body and Option Plate B

This plate shows model identification, Vehicle Identification Number (VIN), paint and trim colour combination, air conditioning, paint number, engine, transmission, axle ratio options, suspension options (where applicable) and build date. The build date is defined as 'the date of manufacture' by calendar month and year in which the body shell and powertrain sub-assemblies are co-joined and the vehicle is driven or moved from the production line.

Emission Label C

This label shows the relevant tune-up information required to maintain minimum exhaust emissions.

LPG Compliance Plate (if fitted) D

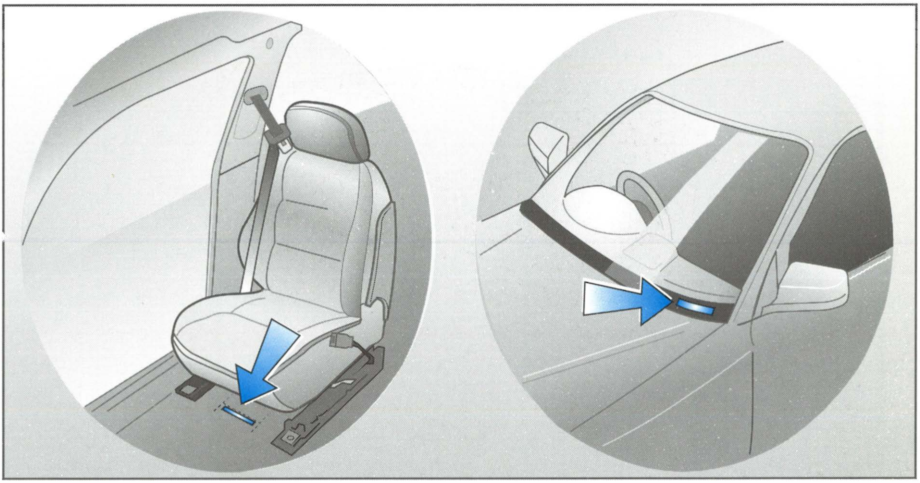
Shown on the plate are the plate number, vehicle engine number, number of cylinders, Date fitted, chassis number, installer's patent and registration number.

LPG Fittment Plate (if fitted) E

This 'Holden By Design' fittment plate shows that the LPG kit is a genuine Holden LPG kit, along with other relevant vehicle details.

I.S.O.V.I.N.

Each vehicle has its own, individual I.S.O.V.I.N., which is shown both behind the windscreen and under the driver's seat of your vehicle.



6 G1 Y K 5 2 A O 2 L1 2 3 4 5 6

Sequential production number, also called Holden 'tag' number, e.g. L123456

Model Year Code: 2 = 2002, 3 = 2003

Security Check Code

Engine Code: A = 3800 (V6)
F = Gen III (V8)
R = 3800 (V6) Supercharged

Restraint Code: 1 = seatbelts,
2 = driver and passenger air bags,
3 = driver air bag,
4 = driver, passenger and side air bags

Body Style Code: 5 = Sedan, 8 = Wagon, 4 = Utility

Luxury Level: K = Executive, L = Berlina, X = Calais

Model Series: Y = VY

World Manufacturer Identifier: 6G1 = Holden

CHAPTER 9

After Sales

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9-4 Parts and accessories warranty
9-5 Warranty questions & answers
9-8 Roadside assistance
9-10 Customer assistance
9-11 For New Zealand Holden owners
9-12 Australian Holden Retailers
9-26 New Zealand Holden Retailers

Note: The names and details of Retail Premises may change after the printing of this Handbook. The list contains both Authorised Holden Retailers and Authorised Holden Service Operations.

NEW VEHICLE WARRANTY CERTIFICATE

New Vehicle Warranty application

This Warranty is given by Holden Ltd, ABN 84 006 893 232, ('Holden'). The Warranty applies to the vehicle identified on the inside front cover of the the service booklet in your vehicle's glovebox. It is provided to the original and subsequent owners / operators driving the vehicle within Australia during the Warranty Period.

This Warranty is given in addition to all rights conferred by law on that person.

Australian vehicles

This Warranty is only applicable to vehicles purchased and operated in Australia.

Owners of vehicles purchased in Australia but operated overseas should consult the local Retailer in the country of operation about any Warranty applicable to their vehicle. This Warranty does not apply for Holden vehicles exported overseas. Similarly, this Warranty is not provided for vehicles purchased overseas and imported into Australia.

Repairs covered

Subject to the exclusions shown on the following page, this Warranty covers the correction, during the Warranty Period, of any vehicle defect related to materials or workmanship and advised to a Holden Retailer or Authorised Service Outlet, by repair or at Holden's option by replacement.

100,000kms
3
years

Warranty Period

The coverage commences from the date of delivery (or in the case of a demonstrator vehicle the date when the vehicle was first placed into service by the Retailer). The coverage expires at the end of the period of 3 years after the commencement date or after the vehicle has travelled 100,000 kilometres, whichever occurs first.

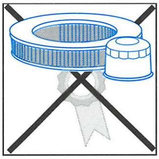
No charge

Warranty work undertaken (including parts and labour) will be carried out at no cost to the vehicle owner. However, this work should not be confused with servicing specified in the Maintenance schedule in the service booklet for which a charge is payable.

NEW VEHICLE WARRANTY CERTIFICATE cont.

Warranty exclusions

- **Damage**
  Your Warranty does not extend to the following damage:
  Damage caused by an accident, fire, theft or moving objects striking the vehicle.
  Damage caused by industrial fallout, chemicals or sealants.
  Damage caused by atmospheric fallout or flood, hail, salt, etc.



- **Maintenance items**

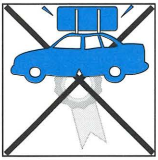
  Services such as brake adjustment, replacement of filters, wiper rubbers etc., which are required as part of normal vehicle maintenance (refer to the service booklet in your vehicle's glovebox).

Manufacturer

- **Tyres**

  The tyres (and tubes where applicable) fitted to your vehicle are not covered by this Warranty. However, they may be covered by the tyre manufacturer.

- **Batteries**
  Batteries are warranted for 12 months.



- **Misuse**
  This Warranty does not cover damage caused by:
  (a) misuse or abuse of the vehicle such as by racing, rallying, overloading, etc., or neglect
  (b) operation of the vehicle after the defect is known
  (c) failure to carry out proper maintenance services (refer to the service booklet in your vehicle's glovebox)
  (d) use of incorrect types and grades of fuel, oil or lubricants
  (e) alteration of the vehicle by anyone not authorised by Holden
  (f) fitting of parts or accessories not recommended by Holden
  (g) any work carried out on the vehicle by anyone except an authorised Holden Retailer or authorised Service Outlet.

PARTS AND ACCESSORIES WARRANTY

Holden warrants Holden approved Parts and Accessories ('Parts' and 'Accessories') for the periods and on the conditions set out below. The Warranty covers the correction, during the relevant Warranty Period, of defects in any such Parts and Accessories, by repair or at Holden's option by replacement.

- **Accessories installed to the new vehicle**

  Holden approved Accessories installed by a Holden Retailer or authorised Service Outlet to the new vehicle at the time of purchase are covered together with the New Vehicle warranty for the period of 3 years or 100,000 km, whichever occurs first.

- **Parts and Accessories installed after new vehicle delivery by a Holden Retailer or authorised Service Outlet**

  Parts and Accessories installed after new vehicle delivery by a Holden Retailer or authorised Service Outlet are covered for 2 years or 50,000 km (whichever occurs first). If the vehicle is still within the New Vehicle Warranty the Parts and Accessories are covered by the longer of:

  2 years / 50,000 km (whichever occurs first)

  or

  the end of the New Vehicle Warranty.

  As an example, an Accessory installed in a 7 month old car would be covered until the end of the New Vehicle Warranty; an Accessory installed in a 2½ year old car would be covered until the end of 4½ years or a further 50,000 km from when the Accessory was installed.

- **Purchased at retail or trade**

  Parts and Accessories purchased at trade or retail and installed by other than a Holden Retailer or authorised Service Outlet are warranted for 1 year from the date of purchase. Please keep a receipt to support warranty claims.

  The Warranty does not cover the labour costs of removal / reinstallation of Parts and Accessories when installed or rectified by other than a Holden Retailer or authorised Service Outlet.

- **Parts and accessories warranty exclusions**

  The tyres (and tubes where applicable) are not covered by this warranty. However, they may be covered by the tyre manufacturer.
  Batteries are warranted for 12 months from date of purchase.
  Parts which are required as part of normal vehicle maintenance are warranted against manufacturing defect at the time of installation. Consult your Holden Retailer to confirm the period of this warranty.

WARRANTY QUESTIONS AND ANSWERS

This section is designed to assist you in understanding the Holden Warranty provided with your new vehicle.

The following are some of the most frequently asked questions for which detailed answers are provided.

Q 1. How do I go about obtaining Holden Warranty service?

It is the responsibility of the Selling Retailer to provide Holden Warranty service, therefore, you should take your vehicle to the Selling Retailer whenever Holden Warranty service is needed. However, if this is not possible, you may go to any other Authorised Holden Retailer. The details recorded inside the front cover of the service booklet will be required by the Retailer.

Q 2. What should I do if my vehicle becomes unsafe or inoperative as a result of a defect which is covered by the Holden New Vehicle Warranty?

You should contact the nearest Authorised Holden Retailer or Holden Customer Assistance Service (refer further in this chapter) as soon as possible, and arrange for that Retailer to carry out the required Holden Warranty Service.

Q 3. What should I do if, in an emergency, Holden Warranty service is required and an Authorised Holden Retailer is not available to provide such service at the time?

If, in an emergency, a repair, replacement or adjustment (covered by the Holden New Vehicle Warranty) is required to enable your vehicle to be operated safely and it is not practical for you to go to an Authorised Holden Retailer, the service (to the extent that it is necessary to enable your vehicle to be operated safely) may be performed by any other qualified mechanic or repairer. A claim for the reasonable cost may be made through the authorised Holden Retailer who would normally provide you with Holden Warranty service. You must also take your vehicle to the Authorised Holden Retailer for inspection of the service and / or completion of any required Holden Warranty service, as soon as possible.

Note: During normal business hours you should seek authorisation from your nearest Authorised Holden Retailer or Holden Customer Assistance Service, prior to repairs being commenced.

Q 4. Are damage or injury, loss of time, inconvenience, commercial or other direct or indirect loss covered by the Holden Warranty?

No, these items are not covered. Holden warranty only covers the repair, replacement or adjustment of those parts of your vehicle which are found to be defective in materials or workmanship. No other types of claim for compensation of any kind, even if the same resulted from a consequence of a defect in materials or workmanship in your vehicle, will be recognised under the Holden New Vehicle Warranty.

You may have rights under the law to claim compensation outside of the Holden New Vehicle Warranty, but any claim based on those rights should be separately pursued.

WARRANTY QUESTIONS AND ANSWERS cont.

Q 5. Will I have to pay for maintenance costs during the Warranty Period?

Maintenance costs are not covered by the Holden New Vehicle Warranty. The Maintenance Schedules in the service booklet (in your vehicle's glovebox) specify the *minimum* maintenance required for your vehicle operating under normal conditions.

The Maintenance items (except where they are required as a result of defects in materials or workmanship) for which you will have to pay include:

- Engine tune-up, including spark plugs replacement.
- Replacement of all filters (including LPG lock off filter – if fitted), engine and other belts, hoses (including LPG hoses – if fitted) wiper blades and clutch linings.
- Cleaning or flushing of fuel, coolant, brake, engine, transmission, differential, power steering etc., after 1,500 km.
- Carbon and sludge removal.
- Maintenance servicing of emission control system devices.
- Adding to (or replacing) lubricants.
- Adding to (or replacing) air conditioning refrigerant, after 1,500 km.
- Any necessary adjustments to drive belts, transmissions, clutch, park brake etc.
- Wheel balancing – after 5,000 km.
- Wheel alignment.
- De-dusting or de-glazing of brake linings or pads – after 1,500 km.
- Brake lining wear or damaged brake components due to lining wear.
- Clutch lining wear or damaged clutch components due to lining wear.
- Brake disc pad or disc wear.
- Battery recharging.
- Paint, bright metal finish and trim, due to normal deterioration.
- Body panel adjustment – after 1,500 km.
- Door, or bonnet lock adjustments.
- Glass or channel adjustments – after 1,500 km.
- Body rattle, squeaks and general tightening of bolts, fasteners and fittings – after 1,500 km.
- Chipped glass or breakage.
- Torn or damaged floor mats or carpets.
- Normal wear and tear to trim components.

Q 6. Are my tyres covered by the Holden New Vehicle Warranty?

No. The tyres fitted to your vehicle are covered by a separate warranty provided by the tyre manufacturer. Any Authorised Holden Retailer will assist you by discussing any queries which you might have with respect to the tyre manufacturer's warranty with the tyre manufacturer's representative.

WARRANTY QUESTIONS AND ANSWERS cont.

Q 7. Will I have to pay for any costs or expenses in connection with the provision of Holden Warranty service?

All parts and labour used in carrying out Holden Warranty service at the premises of the servicing Holden Retailer are free of charge. Whenever Holden Warranty service is to be carried out by the servicing Holden Retailer it is your responsibility to deliver your vehicle to the servicing Holden Retailer's premises.

If, as a result of a defect which is covered by the Holden New Vehicle Warranty, your vehicle cannot be driven safely and you arrange for the nearest Authorised Holden Retailer to carry out the required Holden Warranty service, Holden will accept reasonable towing costs to move your vehicle to the nearest Holden Retailer's premises. Before employing a towing company, contact the nearest Holden Retailer and / or Holden Customer Assistance Service (refer to page 10 of this Chapter) to obtain guidance.

Q 8. Would my vehicle's engine benefit from fuel additives, oil additives or coolant additives not marketed by Holden?

The use of break-in oil, tune-up compounds, friction-reducing compounds and other supplemental additives is not recommended; their use will not only increase operating costs, but may also be detrimental to the operation of your vehicle.

Only the fluids and lubricants referred to in this handbook should be used.

UNAUTHORISED STATEMENTS IN RELATION TO HOLDEN PRODUCTS

No Holden Retailer or other person is authorised or permitted to give or make any statement, assertion or undertaking in relation to the quality, performance, characteristics, descriptions or fitness for any purpose of any Holden product or in connection with the supply of any Holden product, which is at variance with any written statement, assertion or undertaking on any of these subjects given or made by Holden in its published sales literature, and Holden does not accept any responsibility for such unauthorised action.

ROADSIDE ASSISTANCE

3 YEAR
24 HOUR ROADSIDE ASSISTANCE

Our commitment to your satisfaction

Holden's Roadside Assistance is part of the unequalled commitment by Holden to provide total motoring satisfaction.

From the moment delivery is made, our aim is to provide the finest possible ownership experience, from design through manufacturing to servicing and now beyond to the open road, Australia wide.

We hope the need never arises, but if it does, we'll be there to help through Holden Roadside Assistance.

How does Holden Roadside Assistance work?

Holden Roadside Assistance is provided by Holden Ltd., and delivered by the collective resources of the Australian Automobile Clubs and Associations including the constituents of Assist Australia (AA). Contact Customer Assistance Service Line on 1800 033 349 to request a copy of the terms and conditions.

Which vehicles are covered by the service?

As of 1st November 1993 all new Holden passenger and light commercial vehicles are covered for 36 months from the date of first registration.

Holden Roadside Assistance is extended to private and business vehicles, taxis, rental companies, all government and fleet operators.

What will Holden Roadside Assistance do for me?

Holden Roadside Assistance is designed to get you mobile on any road that is trafficable to normal two wheel drive vehicles. In the event of the unexpected happening, from your keys being locked in your car to mechanical and accident advice, help is readily available by simply calling the toll free number 1800 817 100.

All Holden luxury vehicles receive the added benefits of Holden Roadside **Ultra** Assist which includes accommodation, alternative transport, rental car, assistance in case of accident, theft and medical emergency and Australia wide vehicle recovery.

Can I upgrade to Roadside Ultra assist?

Yes, owners can upgrade to Holden Roadside **Ultra** Assistance for a fee by dialling 1800 645 668. Contact Customer Assistance Service Line on 1800 033 349 to request a copy of the **Ultra** terms and conditions.

ROADSIDE ASSISTANCE cont.

When do the benefits begin?

Cover begins from the date of first registration. An interim card entitles you to immediately receive all the benefits of Holden Roadside Assistance.

Where can I get Roadside Assistance?

Holden Roadside Assistance is available to you at home, or at the roadside, anywhere in Australia, should you need it. In remote or sparsely populated areas you may experience delays in obtaining Roadside Assistance due to your location, the availability of the service provider and accessibility.

Is there a membership or joining fee?

No, Holden Roadside Assistance is complimentary with every new Holden passenger vehicle and light commercial vehicle for 36 months from the date of first registration.

What will Holden Roadside Assistance cost me?

Materials, fuel and spare parts must be paid for at the time of service. The service personnel attending will issue a receipt for these expenses. Reimbursement of expenses covered by Holden's warranty can be claimed by contacting your local Holden Retailer.

What happens if I sell my vehicle?

Holden Roadside Assistance stays with the vehicle, so if you sell your vehicle during the 36 month period, it is still eligible for the balance of the Holden Roadside Assistance. The new owner simply registers for the service by using the change of ownership form supplied in the Roadside Assistance booklet.

How do I call for assistance?

Simply call Holden Roadside Assistance toll free on 1800 817 100 from anywhere in Australia. For further information regarding the service and full terms and conditions, refer to the Roadside Assistance Kit in the glovebox or call the toll free Customer Assistance Service Line on 1800 033 349.

CUSTOMER ASSISTANCE

We want you to be happy with your new vehicle, together with the people you deal with while you have the vehicle.

Normally, any problems with the sales, operation, servicing or the validity of original equipment supplied with your vehicle will be handled by your Holden Retailer's Sales and Service Department.

We realise however that, with the best intentions, misunderstandings do occur sometimes.

☞ Therefore, we suggest you discuss any concern with one of the Holden Retailer's management people. If you have not received satisfaction from the Sales Manager or Service Manager – go to the General Manager or to the Retailer Principal.

By now you should have satisfaction. If not, the Holden Customer Assistance office is at your disposal.

☎ The Holden Customer Assistance representatives can be telephoned from anywhere within Australia for only the cost of a local call. The Melbourne area number is 9646 5466. Outside the Melbourne Metropolitan area, the number is 1800 033 349.

If your concern relates to parts / accessories and you have made contact with the Retailer or Distributor without satisfaction, you may contact Holden Service Parts Operations on (03) 9797 7341.

Naturally, telephoning is the quickest and the best way to contact. However, if you prefer to write the address is:

✉ The Manager
Holden Customer Assistance Centre
GPO Box 1714
Melbourne, 3001.

Your letter should clearly outline your concern or query, and include the following:

✍
- Your name and address.
- Telephone numbers, both private & business.
- Servicing Retailer's name and address.
- Vehicle model.
- Vehicle identification number (I.S.O.V.I.N.), refer to the inside front cover of the service booklet in your vehicle's glovebox.
- Date of purchase.
- Current odometer reading.

Most of this information will be found on the Vehicle Identification Certificate, located inside the front cover of the service booklet in your vehicle's glovebox.

Before you write however, remember that the telephone is the quicker and more efficient means of communication.

FOR NEW ZEALAND HOLDEN OWNERS

The information in this Owner's Handbook applies primarily to Australian Holden vehicles and there may be some differences to the Warranty and Owner Assistance provisions for New Zealand. Applicable details for New Zealand are set out in the Holden Warranty and Owner Assistance Information booklet enclosed in the New Zealand glovebox wallet.

For your convenience, a list of New Zealand Retailers is provided at the end of this Chapter.

☎ New Zealand Assistance can be reached on:

0800 HOLDEN (0800 465336)

This number provides access to New Zealand Roadside Assistance as well as New Zealand Customer Assistance.

✉ If you prefer to write the address is:

The Manager
Holden Customer Assistance Centre
GPO Box 1714
Melbourne,
Australia, 3001.

AUSTRALIAN HOLDEN RETAILERS

N.S.W. Metropolitan

ARNCLIFFE
Suttons Motors Arncliffe P/L
93 Princes Highway
P: (02) 9335 9000 FAX: (02) 9335 9006

ASHFIELD
Muirs Holden
252 Parramatta Road
P: (02) 9798 8888 Fax: (02) 9799 7010

BALGOWLAH
Peninsula Holden Balgowlah
164 Condamine Street
P: (02) 9949 1888 FAX (02) 9949 7237

BANKSTOWN
Peninsula Holden Bankstown
466 Chapel Road
P: (02) 9790 1234 Fax: (02) 9790 0033

BLACKTOWN
Heartland Holden
120~128 Sunnyholt Road
P: (02) 9622 7333 Fax: (02) 9671 7394

CAMDEN
Camden Holden
33 Edward Street
P: (02) 4655 5000 Fax: (02) 4655 5001

CAMPBELLTOWN
Paul Wakeling Holden
Cnr Blaxland & Mill Roads
P: (02) 4628 1444 Fax: (02) 4628 3262

CASTLE HILL
Heartland Holden
Cnr Victoria Ave/Windsor Rd
P: (02) 9894 6666 Fax: (02) 9894 5600

CHULLORA
Suttons Motors (Chullora) P/L
Cnr Hume Hwy/Waterloo Rd
P: (02) 9642 0233 Fax: (02) 9642 7798

DEE WHY
Peninsula Holden Dee Why
Cnr May & Mooramba Roads
P: (02) 9982 1311 Fax: (02) 9982 3755

EAST SYDNEY
Suttons City Holden
137-157 Bourke Street
P: (02) 9357 4222 Fax: (02) 9358 5542

FAULCONBRIDGE, BLUE MOUNTAINS
Blue Mountains Holden
435~437 Great Western Hwy
P: (02) 4751 1911 Fax: (02) 4751 2481

GORDON
Sundell Holden
836 Pacific Highway
P: (02) 9418 0000 Fax: (02) 9498 2906

HOMEBUSH
Suttons Motors Homebush P/L
112 Parramatta Road
P: (02) 9746 4500 Fax: (02) 9746 7206

KATOOMBA, BLUE MOUNTAINS
Blue Mountains Holden
136 Bathurst Road
P: (02) 4782 2066 Fax: (02) 4782 5546

LAKEMBA
United Holden Lakemba
817 Canterbury Road
P: (02) 9740 5555 Fax: (02) 9740 5907

LANSVALE
Lansvale Holden
266~284 Hume Highway
P: (02) 9728 7333 Fax: (02) 9726 1085

LIVERPOOL
McGrath Holden
411~419 Hume Highway
P: (02) 9821 5000 Fax: (02) 9821 1993

PARRAMATTA
Heartland Holden
65 Church Street
P: (02) 9204 6666 Fax: (02) 9635 6346

PENNANT HILLS
Barry Smith Holden
343~355 Pennant Hills Road
P: (02) 9483 3333 Fax: (02) 9484 7475

PENRITH
Heartland Holden
Cnr Henry St & Evan Street
P: (02) 4732 1966 Fax: (02) 4721 5896

ROCKDALE
United Holden Rockdale
571 Princes Hwy
P: (02) 9567 0321 Fax: (02) 9597 7395

ROSEBERY
Suttons City Holden
Link Road
P: (02) 9931 3000 Fax: (02) 9931 3001

RYDE
Hunter Holden
603~619 Victoria Road
P: (02) 9808 9123 Fax: (02) 9809 6592

ST LEONARDS
Hunter Holden
4 Herbert Street
P: (02) 9906 4044 Fax: (02) 9439 4635

ST. MARY'S
Heartland Holden
Cnr Glossop & Harris Streets
P: (02) 9673 2111 Fax: (02) 9673 4932

AUSTRALIAN HOLDEN RETAILERS CONT.

SUTHERLAND
McGrath Holden Sutherland
499~505 Princes Highway
P: (02) 9545 4811 Fax: (02) 9545 2533

WAITARA
Suttons Motors Waitara P/L
90 Pacific Hwy
P: (02) 9487 2222 Fax: (02) 9489 0009

WINDSOR
Hawkesbury Valley Holden
18 Macquarie Street
P: (02) 4577 4077 Fax: (02) 4577 2592

N.S.W. Country

ARMIDALE
Graham Betts Holden
103 Rusden Street
P: (02) 6772 9444 Fax: (02) 6772 5836

BALLINA
Quayside Motors
Cnr Ronan Place & Pacific Hwy
P: (02) 6686 5111 Fax: (02) 6686 8574

BATEMANS BAY
Surfair Holden
30-32 Orient Street
P: (02) 4472 5111

BATHURST
Bathurst Holden
Mitchell Highway
P: (02) 6331 2077 Fax: (02) 6331 9177

BEGA
Bega Valley Holden
Cnr Upper and Gibbs Sts
P: (02) 6492 2333 Fax: (02) 6492 3105

BLAYNEY
Blayney Holden
98 Adelaide Street
P: (02) 6368 2745 Fax: (02) 6368 3257

BOMBALA
Delcott Engineering Pty Ltd
Maybe Street
P: (02) 6458 3341 Fax: (02) 6458 3940

BOOROWA
Boowowa Auto Repairs
40 Marsden Street
P: (02) 6385 3305

BROKEN HILL
Donlee Motors Pty Ltd
Cnr Galena & Rakow Streets
P: (08) 8087 2463 Fax: (08) 8087 7971

CARDIFF
Kelly Holden
35~39 MacQuarie Road
P: (02) 4954 7733 Fax: (02) 4954 9407

CASINO
Casino Holden
142 Barker Street
P: (02) 6662 2822 Fax: (02) 6662 2101

CESSNOCK
Geoff Boyd Holden
240~246 Maitland Road
P: (02) 4990 0555 Fax: (02) 4990 0575

COBAR
Cobar Holden
Cnr Lewis St & Louth Road
P: (02) 6836 4005 Fax: (02) 6836 3409

COFF'S HARBOUR
Geoff King Holden
Cnr Pacific Hwy and Thompson Road
P: (02) 6652 2288 Fax: (02) 6652 5360

COOMA
High Country Holden
66~70 Sharp Street
P: (02) 6452 1077 Fax: (02) 6452 1142

COONABARABRAN
Coonabarabran Holden
24 Charles Street
P: (02) 6842 1499 Fax: (02) 6842 2473

COONAMBLE
Moody's Motors
37 Aberford Street
P: (02) 6822 1161 Fax: (02) 6822 1624

COOTAMUNDRA
Jenkins Garage
111 Wallendoon Street
P: (02) 6942 2522 Fax: (02) 6942 1493

COWRA
Waugoola Motors Pty Ltd
Kendal Street
P: (02) 6342 1800 Fax: (02) 6342 3614

CROOKWELL
Crookwell Autos
114 Goulburn Street
P: (02) 4832 1433 Fax: (02) 4832 2157

DENILIQUIN
Burchfield Bros & Co
112~114 End Street
P: (03) 5881 2133 Fax: (03) 5881 3322

DORRIGO
Phil Noble Motors
46~48 Hickory Street
P: (02) 6657 2017 Fax: (02) 6657 2217

DUBBO
Golden West Holden
54 Bourke Street
P: (02) 6882 1011 Fax: (02) 6882 7102

DUNGOG
Turner Holden
248 Dowling Street
P: (02) 4992 1816 Fax: (02) 4992 1833

AUSTRALIAN HOLDEN RETAILERS cont.

EDEN
Ron Doyle
113 Princes Highway
P: (02) 6496 1420 Fax: (02) 6496 1467

FINLEY
Riverina Holden
104 Murray Street
P: (03) 5883 1211 Fax: (03) 5883 1638

FORBES
Frank Spice Holden
20~22 Dowling Street
P: (02) 6851 1755 Fax: (02) 6852 2825

GATESHEAD
Brian Kelly Holden
39 Pacific Highway
P: (02) 4920 7000 Fax: (02) 4920 8008

GILGANDRA
Gilgandra Holden
3 Morris Street
P: (02) 6847 1888 Fax: (02) 6847 1277

GLEN INNES
Glen Severn Holden
167 Grey Street
P: (02) 6732 2888 Fax: (02) 6732 3394

GOSFORD
Barry Robertson Holden
Pacific Highway
P: (02) 4325 0511 Fax: (02) 4324 1043

GOULBURN
Geissler Motors
279~298 Auburn Street
P: (02) 4821 3744 Fax: (02) 4821 9798

GRAFTON
Ken Casson Holden
37~39 Turf Street
P: (02) 6642 6666 Fax: (02) 6642 6737

GRENFELL
Peter Mellon Motors
40 Alexandra Street
P: (02) 6343 1522 Fax: (02) 6343 1347

GRIFFITH
Leo Franco Holden
164~166 Yambil Street
P: (02) 6964 2977 Fax: (02) 6962 4916

GUNNEDAH
Namoi Valley Motors
48 Barber Street
P: (02) 6742 0211 Fax: (02) 6742 3842

HARDEN
Ginty & O'Leary
Cnr Station & Albury Streets
P: (02) 6386 2320 Fax: (02) 6386 2722

HAY
Royce Curtis Motors
168 Lachlan Street
P: (02) 6993 1503 Fax: (02) 6993 2212

HOLBROOK
Lieschke Motors Pty Ltd
78 Albury Street
P: (02) 6036 2244 Fax: (02) 6036 2831

INVERELL
Gaukroger Sales Pty Ltd
Vivian Street
P: (02) 6722 2722 Fax: (02) 6722 1804

JERILDERIE
Jerilderie Motors
Jerilderie Street
P: (03) 5886 1302 Fax: (03) 5886 1734

KANDOS
Chrisfield Holden
11 Angus Street
P: (02) 6379 4204 Fax: (02) 6379 4606

KEMPSEY
Thoroughgood Holden
118~132 Belgrave Street
P: (02) 6562 1381 Fax: (02) 6562 1383

KIAMA
Glen Fulton Holden
35~41 Collins Street
P: (02) 4232 1888 Fax: (02) 4232 3062

KYOGLE
O & H Holden
128~134 Summerland Way
P: (02) 6632 1711 Fax: (02) 6632 2552

LEETON
John Ryan Holden
47~51 Pine Avenue
P: (02) 6953 2466 Fax: (02) 6953 6725

LISMORE
John Chant Motors Pty Ltd
Carrington Street
P: (02) 6621 2601 Fax: (02) 6622 4659

LITHGOW
Lithgow City Holden
255 Main Street
P: (02) 6351 4555 Fax: (02) 6351 4653

MACKSVILLE
Eastland Holden
18~22 Cooper Street
P: (02) 6568 1711 Fax: (02) 6568 1816

MACLEAN
O'Halloran Motors
175 River Street
P: (02) 6645 2844 Fax: (02) 6645 4003

MAITLAND
Heritage Holden
Cnr New England Hwy & Bungaree St
P: (02) 4932 0779 Fax: (02) 4932 0473

MOREE
Keith Haddad Holden
Cnr Boston & Heber Streets
P: (02) 6752 1855 Fax: (02) 6752 1298

AUSTRALIAN HOLDEN RETAILERS cont.

MORUYA
Surfair Holden
88 Vulcan Street
P: (02) 4474 2555 Fax: (02) 4474 2129

MOSS VALE
Moss Vale Holden
160~162 Argyle Street
P: (02) 4868 1055 Fax: (02) 4868 3330

MULLUMBIMBY
Tony Carsburg Holden
2 Argyle Street
P: (02) 6684 2066 Fax: (02) 6684 4593

MUDGEE
Ross Granata Motors
32 Sydney Road
P: (02) 6372 1766 Fax: (02) 6372 3735

MURWILLUMBAH
Tweed Motors
29 Prospero Street
P: (02) 6672 4444 Fax: (02) 6672 5811

MUSWELLBROOK
Upper Hunter Motors Pty Ltd
116 Bridge Street
P: (02) 6543 2577 Fax: (02) 6543 2565

NARRABRI
Allan Cooper Holden
181 Maitland Street
P: (02) 6792 3488 Fax: (02) 6792 4750

NEWCASTLE
Newcastle City Holden
King Street (Cnr Stewart Ave)
P: (02) 4961 5301 Fax: (02) 4961 6485

NOWRA
Glendon Motors Holden
301~313 Princes Highway
P: (02) 4421 0144 Fax: (02) 4423 0854

NYNGAN
New Bridge Service Centre
36 Numagee Street
P: (02) 6832 1761 Fax: (02) 6832 2760

ORANGE
Canobolas Holden
Cnr Summer St & Endsleigh Ave
P: (02) 6362 0155 Fax: (02) 6361 3702

PARKES
Broderick Motors Holden
Cnr Mitchell & Clarinda Sts
P: (02) 6862 2266 Fax: (02) 6862 1406

PEAK HILL
S. Leary & Sons Pty Ltd
Mingelo Street
P: (02) 6869 1459 Fax: (02) 6869 1999

PORT MACQUARIE
Bob Todd Motors Pty Ltd
115 Gordon Street
P: (02) 6583 1100 Fax: (02) 6584 9508

QUIRINDI
Browning Motors
82 Henry Street
P: (02) 6746 1666 Fax: (02) 6746 1422

SCONE
Upper Hunter Motors (Scone)
100 Liverpool Street
P: (02) 6545 1355

SINGLETON
Lancaster Holden
80 John Street
P: (02) 6578 8700 Fax: (02) 6578 8733

TAMWORTH
Kensell's Holden
Cnr Bourke St & Kable Ave
P: (02) 6766 6699 Fax: (02) 6766 7339

TAREE
Cullen Holden
21~25 Victoria Street
P: (02) 6552 2222 Fax: (02) 6552 1269

TEMORA
Rod Lovering Holden
607-608 Stockinbingal Road
P: (02) 6977 2255 Fax: (02) 6977 2033

TENTERFIELD
Sexton & Green (Sales & Service) P/L
148 Rouse Street
P: (02) 6736 1855 Fax: (02) 6736 1946

TUGGERAH
Barry Robertson Holden
172 Pacific Highway
P: (02) 4351 2588 Fax: (02) 4352 1759

TUMUT
Harry Kell & Sons Pty. Ltd
Cnr. Merrivale & Russell Streets
P: (02) 6947 2293 Fax: (02) 6947 3763

TUNCURRY
Great Lakes Holden
144 Manning Street
P: (02) 6555 6644 Fax: (02) 6555 7433

ULLADULLA
Alan May Holden
169 Princes Highway
P: (02) 4455 1166 Fax: (02) 4455 4122

WAGGA WAGGA
Wagga Motors Pty Ltd
32 Dobney Avenue
P: (02) 6925 3411 Fax: (02) 6925 3283

WALCHA
Bowdens Holden Walcha
18 Derby Street
P: (02) 6777 2226 Fax: (02) 6777 2319

WALGETT
Walgett Garage Pty Ltd
81 Wee Waa Street
P: (02) 6828 1088 Fax: (02) 6828 1198

AUSTRALIAN HOLDEN RETAILERS cont.

WALLA WALLA
D.E. Lieschke & Son Pty Ltd
63 Commercial Road
P: (02) 6029 2202 Fax: (02) 6029 2134

WARIALDA
Roger Moore
Hope Street
P: (02) 6729 1570 Fax: (02) 6729 1104

WARILLA
Wilson's Holden
29 Shellharbour Road
P: (02) 4295 1223 Fax: (02) 4296 1007

WARREN
Fuller Bros
Dubbo Street
P: (02) 6847 4978 Fax: (02) 6847 4477

WELLINGTON
Gersbach's Garage Pty Ltd
92 Lee Street
P: (02) 6845 2733 Fax: (02) 6845 3236

WEST WYALONG
West Wyalong Motors
183 Main Street
P: (02) 6972 2388 Fax: (02) 6972 2570

WOLLONGONG
Dwyers City Holden
31~33 Crown Street
P: (02) 4229 9222 Fax: (02) 4229 5105

YOUNG
Harden & Geelan Holden
30 Boorowa Street
P: (02) 6382 1155 Fax: (02) 6382 4673

A.C.T.

BELCONNEN
Gerald Slaven Holden
2 Josephson Street
P: (02) 6251 5111 Fax: (02) 6253 1298

BRADDON
Rolfe Holden
44 Mort Street
P: (02) 6248 7888 Fax: (02) 6257 1328

PHILLIP
Commonwealth Motors Pty Ltd
158 Melrose Drive
P: (02) 6282 3522 Fax: (02) 6282 5214

Tas.

BURNIE
Motors Burnie
Marine Terrace
P: (03) 6431 1122 Fax: (03) 6431 3146

DEVONPORT
Motors Devonport
Victoria Parade
P: (03) 6424 4033 Fax: (03) 6424 5249

HOBART
Motors Pty Ltd
179 MacQuarie Street
P: (03) 6220 1171 Fax: (03) 6223 8117

LAUNCESTON
Motors Launceston
93~95 Elizabeth Street
P: (03) 6332 9101 Fax: (03) 6334 5245

Vic. Metropolitan

BACCHUS MARCH
Alan Mance Holden Bacchus March
4 Graham Street
P: (03) 5367 4300 Fax: (03) 53674299

BERWICK
Barry Bourke Holden
755 Princes Highway
P: (03) 9707 2222 Fax: (03) 9707 3091

BUNDOORA
Watson Holden
413 Grimshaw Street
P: (03) 9467 4677 Fax: (03) 9467 7661

BURWOOD
Penfold Holden
142 Burwood Highway
P: (03) 9268 1333 Fax: (03) 9268 1335

CHELSEA
Harrison Holden
370 Nepean Highway
P: (03) 9772 2233 Fax: (03) 9772 2190

CHELTENHAM
Booran Holden
1212 Nepean Highway
P: (03) 9584 3333 Fax: (03) 9584 4285

DANDENONG
Booran Holden
17 Lonsdale Street
P: (03) 9794 5455 Fax: (03) 9792 4871

DONCASTER
Doncaster Holden
636~640 Doncaster Road
P: (03) 9840 0188 Fax: (03) 9840 2587

ELSTERNWICK
Reg Hunt Holden
67 Nepean Highway
P: (03) 9528 2222 Fax: (03) 8545 7644

ESSENDON
Preston Motors (Essendon) P/L
205~211 Keilor Road
P: (03) 9374 2888 Fax: (03) 9379 6754

AUSTRALIAN HOLDEN RETAILERS cont.

FAWKNER
Mantello Holden
1263 Sydney Road
P: (03) 9359 1333 Fax: (03) 9359 9334

FERNTREE GULLY
Ferntree Gully Holden
980 Burwood Highway
P: (03) 9753 1222 Fax: (03) 9758 3435

FOOTSCRAY
Alan Mance Holden
435 Barkly Street
P: (03) 9396 8000 Fax: (03) 9396 8001

FRANKSTON
Bay City Holden
140 Dandenong Road
P: (03) 9784 4444 Fax: (03) 9784 4419

GEELONG
R & B Smith Holden
510 Moorabool Street
P: (03) 5222 2888 Fax: (03) 5221 3114

GEELONG
Winter & Taylor Holden
23 Cavendish Street
P: (03) 5222 1811 Fax: (03) 5221 1873

GLENHUNTLY
Booran Holden
1234 Glenhuntly Road
P: (03) 9571 9313 Fax: (03) 9571 8374

GLEN WAVERLEY
Geoff Brady Holden
565~577 Springvale Road
P: (03) 9550 5888 Fax: (03) 9550 5855

HASTINGS
John Collins Holden
2041 Frankston-Flinders Road
P: (03) 5979 4433 Fax: (03) 5975 4720

LILYDALE
Heritage Holden
344 Main Street
P: (03) 9735 5566 Fax: (03) 9735 1040

MELTON
Alan Mance Holden
1 Holland Drive
(03) 9746 9666 Fax: (03) 9746 9555

MORNINGTON
John Collins Holden
976 Nepean Highway
P: (03) 5975 4433 Fax: (03) 5975 4720

OAKLEIGH
Garry & Warren Smith
1575 Dandenong Road
P: (03) 9568 6333 Fax: (03) 9568 5691

PRESTON
Ralph D'Silva Holden
573~603 High Street
P: (03) 9471 0500 Fax: (03) 9478 4210

RINGWOOD
Patterson Cheney Holden
45~57 Maroondah Highway
P: (03) 9262 6666 Fax: (03) 9870 1113

SOUTH MELBOURNE
South City Holden
380 City Road
P: (03) 9627 3333 Fax: (03) 9682 6888

SOUTH YARRA
Penfold Holden
681 Chapel Street
P: (03) 9827 2272 Fax: (03) 9826 5328

SUNBURY
Sunbury Holden
93~95 Horne Street
P: (03) 9740 3000 Fax: (03) 9740 4777

SUNSHINE
Kevin Dennis Holden
272 Ballarat Road
P: (03) 9292 9292 Fax: (03) 9292 9200

WERRIBEE
Ballan Holden
56 Princes Highway
P: (03) 9741 2222 Fax: (03) 9742 3797

WEST MELBOURNE
Reg Hunt Holden
577 King Street
P: (03) 9329 6611 Fax: (03) 9329 1550

Vic. Country

ALEXANDRA
Alexandra Total Automotive Services
120 Grant Street
P: (03) 5772 1588 Fax: (03) 5772 1978

ARARAT
David Reid Motors
High Street
P: (03) 5352 4100 Fax: (03) 5352 4388

BAIRNSDALE
The Big Garage
628 Princes Highway
P: (03) 5152 4131 Fax: (03) 5152 5313

BALLARAT
Peter Amor Motors
211 Gillies Street
P: (03) 5339 9333 Fax: (03) 5339 9202

BENALLA
Arnott's Motors
88~90 Bridge Street
P: (03) 5762 2500 Fax: (03) 5762 1586

BENDIGO
Ron Poyser Holden
Cnr High & Myrtle Streets
P: (03) 5442 3999 Fax: (03) 5442 7766

AUSTRALIAN HOLDEN RETAILERS cont.

CAMPERDOWN
Camperdown Auto Parts
96 Manifold Street
P: (03) 5593 1983 Fax: (03) 5593 1979

CASTERTON
Coxons Holden
139 Henty Street
P: (03) 5581 1166 Fax: (03) 5581 2116

CHARLTON
Walsh Motors, Charlton
70~74 High Street
P: (03) 5491 1444 Fax: (03) 5491 1984

COBRAM
Neville Mustica Motors
Murray Valley Hwy
P: (03) 5872 1666 Fax: (03) 5872 1920

COHUNA
Hare Motors Holden
105~107 King George Street
P: (03) 5456 4488 Fax: (03) 5456 4448

COLAC
Parker Bros. Motor Co
224 Murray Street
P: (03) 5231 5533 Fax: (03) 5231 3853

DAYLESFORD
K.R. Little
Vincent Street
P: (03) 5348 2248

DONALD
O.A. Shilton & Sons Pty Ltd
5 Woods Street
P: (03) 5497 1400 Fax: (03) 5497 1505

ECHUCA
Echuca Motors
1 Nothern Highway
P: (03) 5482 1522 Fax: (03) 5480 6215

EUROA
Parker Bros Auto Co. Euroa
37~41 Clifton Street
P:(03) 5795 2702 Fax: (03) 5795 1288

HAMILTON
Bloods of Hamilton
210 Gray Street
P: (03) 5572 1433 Fax: (03) 5571 1182

HOPETOUN
Hopetoun Motors
78 Lascelles Street
P: (03) 5083 3143 Fax: (03) 5083 3290

HORSHAM
Ivan Morrow Motors Pty Ltd
22 O'Callaghans Parade
P: (03) 5382 0185 Fax: (03) 5382 0459

KANIVA
Kaniva Motors
82 Commercial Street
P: (03) 5392 2300 Fax: (03) 5392 2589

KOO WEE RUP
G & J Light Mechanical Repairs P/L
Station Road
P: (03) 5997 1325

KORUMBURRA
Peter Dunlevie Holden
42 Commercial Street
P: (03) 5655 1288 Fax: (03) 5655 1839

KYABRAM
D'Alberto Holden
60 McEwen Road
P: (03) 5852 1366 Fax: (03) 5852 1337

KYNETON
Mollison Motors Pty Ltd
167 Mollison Street
P: (03) 5422 3377 Fax: (03) 5422 3501

LEONGATHA
Gleeson Holden
37~43 Bair Street
P: (03) 5662 2361 Fax: (03) 5655 1839

MANSFIELD
Martin's Garage
52~54 Chenery Street
P: (03) 5775 2610 Fax: (03) 5775 1179

MARYBOROUGH
Graham Jacka Holden
35 Nolan Street
P: (03) 5461 1011 Fax: (03) 5461 4789

MILDURA
Stuart & Harrison (Sales) Pty Ltd
24~40A Deakin Avenue
P: (03) 5023 0051 Fax: (03) 5021 3076

MORTLAKE
W. Christian (Mortlake) Pty. Ltd.
107 Dunlop Street
P: (03) 5599 2301 Fax: (03) 5599 2567

MURRAYVILLE
Peers Motors
McKenzie Street
P: (03) 5095 2081 Fax: (03) 5095 2054

NHILL
Ivan Morrow Motors Pty Ltd
71~73 Nelson Street
P: (03) 5391 1333 Fax: (03) 5391 1228

ORBOST
Merlin Motors
Stanley Street
P: (03) 5154 1909

PORTLAND
Reynolds of Portland
Henty Highway
P: (03) 5523 1688 Fax: (03) 5523 6299

QUAMBATOOK
Quambatook Auto Services
32 Gutherie Street
P: (03) 5457 1237 Fax: (03) 5457 1420

AUSTRALIAN HOLDEN RETAILERS cont.

ROCHESTER
Bruce Hocking Motors Pty Ltd
85 Lowry Street
P: (03) 5484 1455 Fax: (03) 5484 1140

RUTHERGLEN
Jasper Bros Pty Ltd
62 Main Street
P: (02) 6032 8404 Fax: (02) 6032 8156

SALE
Sam Gould Holden
273 York Street
P: (03) 5144 3944 Fax: (03) 5144 6289

SEYMOUR
Neil Beer Holden
49 Emily Street
P: (03) 5792 2777 Fax: (03) 5792 4111

SHEPPARTON
Parker Bros. Auto Co.
Benalla Road
P: (03) 5822 2666 Fax: (03) 5831 2507

STAWELL
Howden Holden
72~74 Longfield Street
P: (03) 5358 1888 Fax: (03) 5358 3954

SWAN HILL
Swan Hill Holden
94~102 Campbell Street
P: (03) 5033 1800 Fax: (03) 5032 2468

TALLANGATTA
Crispin Motors
21 Towong Street
P: (02) 6071 2414 Fax: (02) 6071 2655

TERANG
W. Christian (Terang) Pty Ltd
6a Baynes Street
P: (03) 5592 1588 Fax: (03) 5592 1481

TIMBOON
Timboon Motors
56 Bailey Street
P: (03) 5598 3007 Fax: (03) 5598 3362

TRARALGON
Colin Watson Holden
Princes Highway
P: (03) 5174 8000 Fax: (03) 5175 0050

UNDERBOOL
A.J. Gloster & Sons
Cotter Street
P: (03) 5094 6291 Fax: (03) 5094 6297

WANGARATTA
Alan Capp (New Cars) Pty Ltd
29 Tone Road
P: (03) 5721 2133 Fax: (03) 5721 4626

WARRACKNABEAL
Amor Motors Aubrey Truck Sales
33 Woolcock Street
P: (03) 5394 1055 Fax: (03) 5398 1904

WARRAGUL
Barry Bourke Warragul
167 Queen Street
P: (03) 5622 0000 Fax: (03) 5622 0333

WARRNAMBOOL
Callaghan Motors Pty Ltd
133~137 Fairy Street
P: (03) 5562 3711 Fax: (03) 5562 7415

WODONGA
McRae White Motors
182 Melbourne Road
P: (02) 6056 2333 Fax: (02) 6024 7899

WONTHAGGI
Wonthaggi Holden
2 Murray Street
P: (03) 5672 1122 Fax: (03) 5672 4141

YARRAM
John Palmer Holden
150 Commercial Road
P: (03) 5182 5122 Fax: (03) 5182 6166

YARRAWONGA
Pigdons
155 Belmore Street
P: (03) 5743 1577 Fax: (03) 5744 1788

Qld. Metropolitan

ASPLEY
Zupps Aspley Pty Ltd
1454 Gympie Road
P: (07) 3246 8000 Fax: (07) 3246 8092

BROWNS PLAINS
Zupps Hillcrest
Cnr Anzac Ave & Corporate Place, Hillcrest,
P: (07) 3802 4000 Fax: (07) 3802 4099

CAPALABA
Oldfield Holden
103 Redland Bay Road
P: (07) 3245 2200 Fax: (07) 3245 2221

INDOOROOPILLY
Westpoint Holden
440 Moggill Road
P: (07) 3878 0440 Fax: (07) 3878 1340

IPSWICH
Ross Llewellyn Holden
246 Brisbane Road
P: (07) 3282 2922 Fax: (07) 3282 6359

LAIDLEY
Buhse's Garage
5 Spicer Street
P: (07) 5465 1406 Fax: (07) 5465 1706

MOOROOKA
John Sivyer Holden
1060 Ipswich Road
P: (07) 3892 3344 Fax: (07) 3848 8866

AUSTRALIAN HOLDEN RETAILERS cont.

MT. GRAVATT
Zupps Motors Pty Ltd
1310 Logan Road
P: (07) 3877 0000 Fax: (07) 3877 0063

NEWSTEAD
Eagers Holden
95 Breakfast Creek Road
P: (07) 3364 1199 Fax: (07) 3364 1060

PETRIE
Village Motors
1059 Gympie Road
P: (07) 3285 2244 Fax: (07) 3285 1975

REDCLIFFE
Village Holden
425 Elizabeth Avenue
P: (07) 3883 0900 Fax: (07) 3883 2711

SPRINGWOOD
Motorama Holden
3455 Pacific Highway
P: (07) 3804 4888 Fax: (07) 3208 7018

WINDSOR
Eagers Holden
143 Newmarket Road
P: (07) 3357 6711 Fax: (07) 3357 5403

WOOLLOONGABBA
Armstrong Holden
73 Ipswich Road
P: (07) 3891 5522 Fax: (07) 3891 5146

WYNNUM
Doug Barton Holden
200 Tingal Road
P: (07) 3396 7777 Fax: (07) 3393 3593

Qld. Country

ATHERTON
Redding Motors Pty Ltd
2 Cook Street
P: (07) 4091 1344 Fax: (07) 4091 2039

AYR
Honeycombes Sales & Service
213~217 Queen Street
P: (07) 4783 2344 Fax: (07) 4783 2079

BEAUDESERT
Zupps Beaudesert
57 Brisbane Street
P: (07) 5541 2000 Fax: (07) 5541 3368

BILOELA
Andersons Auto City
Dawson Highway
P: (07) 4992 2833 Fax: (07) 4992 3066

BOWEN
McDermott Holden
98 Herbert Street
P: (07) 4786 1430 Fax: (07) 4786 2903

BUNDABERG
Ross Gray Holden
Takalvan Street
P: (07) 4150 1333 Fax: (07) 4150 1318

CABOOLTURE
Beecham Holden
Bribie Island Road
P: (07) 5495 1477 Fax: (07) 5495 2839

CAIRNS
Ireland Holden
227~233 Mulgrave Road
P: (07) 4052 3666 Fax: (07) 4052 3606

CALOUNDRA
Caloundra City Holden
45 Caloundra Road
P: (07) 5491 5522 Fax: (07) 5491 8016

CHARTERS TOWERS
Peters Holden
57 Mosman Street
P: (07) 4787 1177 Fax: (07) 4787 4858

CHARLEVILLE
Alan Dobbin Holden
129 Alfred Street
P: (07) 4654 1737 Fax: (07) 4654 3254

CHINCHILLA
Ainsworth Motors & Machinery Pty Ltd
55 Chinchilla Street
P: (07) 4662 7286 Fax: (07) 4662 7197

CROWS NEST
Dennis Nissen Motors
14 William Street
P: (07) 4698 1300 Fax: (07) 4698 1495

DALBY
Johnson's Holden
36 Drayton Street
P: (07) 4662 2422 Fax: (07) 4662 4311

EMERALD
Emerald Holden
Hospital Road
P: (07) 4983 9888 Fax: (07) 4983 9889

GATTON
Gatton Auto Centre
67 Railway Street
P: (07) 5462 1633 Fax: (07) 5462 1980

GLADSTONE
Andersons Auto City
56 Yarroon Street
P: (07) 4972 1177 Fax: (07) 4972 9141

GOONDIWINDI
Carpro
Cnr Lagoon & West Streets
P: (07) 4671 2170 Fax: (07) 4671 2013

AUSTRALIAN HOLDEN RETAILERS cont.

GYMPIE
Madills Holden
35 Mellor Street
P: (07) 5480 5500 Fax: (07) 5482 2672

HERVEY BAY
Whitaker Holden
96 Torquay Road
P: (07) 4128 1722

INGHAM
Devietti Holden
99 Lannercost Street
P: (07) 4776 1599 Fax: (07) 4776 3547

INNISFAIL
I.C. Taylor Pty Ltd
117 Edith Street
P: (07) 4061 1577 Fax: (07) 4061 3963

JULIA CREEK
Julia Creek Motors Pty Ltd
Burke Street
P: (07) 4746 7155 Fax: (07) 4746 7197

KILCOY
Hobart's Garage
58 Mary Street
P: (07) 5497 1204 Fax: (07) 5497 1204

KINGAROY
John Dundas Pty Ltd
79 Kingaroy Street
P: (07) 4162 1722 Fax: (07) 4162 3756

LONGREACH
Longreach Motors
33 Swan Street
P: (07) 4658 1700 Fax: (07) 4658 1857

MACKAY
Pioneer Holden
Cnr Gordon & Wellington Streets
P: (07) 4969 4299 Fax: (07) 4969 4288

MAROOCHYDORE
Sunco Holden
Wises Road
P: (07) 5443 7644 Fax: (07) 5443 7645

MARYBOROUGH
Whitaker Holden
109~111 March Street
P: (07) 4122 2255 Fax: (07) 4122 6222

MOUNT ISA
Bruce Marles Motor City
Marian Street
P: (07) 4743 3044 Fax: (07) 4743 8466

MURGON
Clifton Motors
Macalister Street
P: (07) 4168 1066 Fax: (07) 4168 1947

NAMBOUR
Sunco
Bruce Highway
P: (07) 5451 2000 Fax: (07) 5451 2099

NANANGO
Nanango Motors Pty Ltd
102 Drayton Street
P: (07) 4163 1108 Fax: (07) 4163 1108

NOOSAVILLE
Madill's
Lot 1 Lionel Donovan Drive
P: (07) 5470 0700 Fax: (07) 5474 0073

PROSERPINE
Crossley Car Sales Whitsunday Pty Ltd
162~164 Main Street
P: (07) 4945 1822 Fax: (07) 4945 2022

ROBINA
Robina Holden
16 Brabham Circuit
P: (07) 5575 0500 Fax: (07) 5562 1072

ROCKHAMPTON
Lawrence's
327 Richardson Road
P: (07) 4930 5111 Fax: (07) 4930 5112

ROMA
Maranoa Multi Agencies
Bowen Street
P: (07) 4622 2900 Fax: (07) 4622 1832

SOUTHPORT
Lockhart Holden
Cnr Nerang Road & Olsen Avenue
P: (07) 5597 2900 Fax: (07) 5597 2542

SPRINGSURE
Springsure Motors
Eclipse Street
P: (07) 4984 1177 Fax: (07) 4984 1361

ST. GEORGE
Halpin Motors
39~41 Grey Street
P: (07) 4625 5466 Fax: (07) 4625 5855

STANTHORPE
Central Motors
42 Maryland Street
P: (07) 4681 2200 Fax: (07) 4681 1479

TOOWOOMBA
Toowoomba Holden
Cnr James & Hume Streets
P: (07) 4690 0900 Fax: (07) 4690 0909

TOWNSVILLE
Tony Ireland Holden
87~91 Charters Towers Road
P: (07) 4726 7777 Fax: (07) 4721 1486

TULLY
Island Coast Holden
Bruce Highway
P: (07) 4068 1288 Fax: (07) 4068 2145

WARWICK
Deighton Motors Pty Ltd
Grafton Street
P: (07) 4661 2266 Fax: (07) 4661 1275

AUSTRALIAN HOLDEN RETAILERS cont.

N.T.

ALICE SPRINGS
Peter Kittle Holden
46 Stuar Highway
P: (08) 8952 5500 Fax: (08) 8953 0847

DARWIN
Kerry Holden
21~25 Stuart Highway
P: (08) 8980 8080 Fax: (08) 8980 8081

TENNANT CREEK
Kittles Holden
Paterson Street
P: (08) 8962 2251 Fax: (08) 8962 2527

S.A. Metropolitan

ADELAIDE
City Holden
223 Grenfell Street
P: (08) 8223 7666 Fax: (08) 8359 2588

ELIZABETH
Peter Page Holden
17 Elizabeth Way
P: (08) 8255 1288 Fax: (08) 8255 9260

HILLCREST
City Holden
327~329 Main North East Road
P: (08) 8261 5855 Fax: (08) 8369 0066

MALVERN
Claridge Holden
361~367 Unley Road
P: (08) 8272 1600 Fax: (08) 8373 0057

PORT ADELAIDE
Smiths of Port Adelaide
271 Commercial Road
P: (08) 8341 2255 Fax: (08) 8341 2233

PROSPECT
Metro Holden
84~88 Main North Road
P:(08) 8343 5000 Fax: (08) 8344 9670

REYNELLA
Southgate Holden
49~59 Main South Road
P: (08) 8381 9555 Fax: (08) 8381 6274

ROSE PARK
City Holden
14 Kensington Road
P: (08) 8334 4666 Fax: (08) 8334 4610

SOMERTON PARK
Hamilton Holden
278~288 Brighton Road
P: (08) 8296 4866 Fax: (08) 8358 3957

THEBARTON
Metro Holden
1 Port Road
P: (08) 8354 9555 Fax: (08) 8443 6855

VALLEY VIEW
Plaza Holden
817~839 North East Road
P: (08) 8263 4922 Fax: (08) 8265 5200

S.A. Country

BALAKLAVA
Balaklava Motors
4 Wallace Street
P: (08) 8862 1030 Fax: (08) 8862 2000

BERRI
Rosenthal Bros Pty Ltd
Vaughan Terrace
P: (08) 8582 3644 Fax: (08) 8582 3515

BORDERTOWN
Farmers Centre
South Terrace
P: (08) 8752 0266 Fax: (08) 8752 0233

CEDUNA
Beck Motors Pty Ltd
Poynton Street
P: (08) 8625 2616 Fax: (08) 8625 3201

CLARE
Mid North Motor Company
7 Old North Road
P: (08) 8842 2200 Fax: (08) 8842 2886

CLEVE
Pringles Ag. Plus
Rudall Road
P: (08) 8628 2150 Fax: (08) 8628 2537

CUMMINS
Trigg & Wedd
3 Umlauf Street
P: (08) 8676 2105 Fax: (08) 8676 2303

CRYSTAL BROOK
Crouch Rural Pty. Ltd
26 Brandis Street
P: (08) 8636 2257 Fax: (08) 8636 2088

GAWLER
Steinborner Holden
Cnr Murray & Bridge Sts
P: (08) 8522 4222 Fax: (08) 8522 4898

KADINA
J.H. Rosewarne Pty Ltd
Graves Street
P: (08) 8821 1111 Fax: (08) 8821 1686

KEITH
Farmers Centre
McBain Street
P: (08) 8755 3222 Fax: (08) 8755 3211

KIMBA
R.J. Flavel Mechanical Repairs
30 High Street
P: (08) 8627 2555 Fax: (08) 8627 2044

AUSTRALIAN HOLDEN RETAILERS cont.

KINGSTON
Lecornu's Service Garage
Agnes Street
P: (08) 8767 2424 Fax: (08) 8767 2533

LOXTON
Flight Motors Pty Ltd
Bookpurnong Terrace
P: (08) 8584 7277 Fax: (08) 8584 5937

MINLATON
Southway
9 Fifth Street
P: (08) 8853 2322 Fax: (08) 8853 2451

MENINGIE
Peter Hood Holden
Cnr Princes Highway & Coonalpyn Road
P: (08) 8575 1109 Fax: (08) 8575 1537

MT. BARKER
Gilbert Motors
57 Adelaide Road
P: (08) 8391 1500 Fax: (08) 8398 2124

MT. GAMBIER
O.G. Roberts & Co
Jubilee Highway West
P: (08) 8724 1111 Fax: (08) 8724 1100

MURRAY BRIDGE
Dutton Motors Pty Ltd
7 Adelaide Road
P: (08) 8532 1999 Fax: (08) 8531 0599

NARACOORTE
Kingcraig Motors Pty Ltd
158~164 Smith Street
P: (08) 8762 1555 Fax: (08) 8762 1806

PORT AUGUSTA
Augusta Motor Company Pty Ltd
38 Stirling Road
P: (08) 8641 0488 Fax: (08) 8642 4300

PORT LINCOLN
City Motors
King Street
P: (08) 8682 1100 Fax: (08) 8682 4734

PORT PIRIE
Spencer Holden
50 Ellen Street
P: (08) 8632 3888 Fax: (08) 8632 6405

RENMARK
Rosenthal Motors Pty Ltd
Ral Ral Avenue
P: (08) 8586 6626 Fax: (08) 8586 4040

STRATHALBYN
Gilbert Holden - Strathalbyn
High Street
P: (08) 8536 2066 Fax: (08) 8536 2672

TANUNDA
Hage & Co Pty Ltd
50 Murray Street
P: (08) 8563 2123 Fax: (08) 8563 3488

VICTOR HARBOR
Southern Motors Holden
5 Victoria Street
P: (08) 8552 1255 Fax: (08) 8552 2788

WAIKERIE
Riverside Holden
6 Crush Terrace
P: (08) 8541 2900 Fax: (08) 8541 3325

WHYALLA
McLeods Whyalla Motor Company
64 Essington Lewis Avenue
P: (08) 8645 7388 Fax: (08) 8645 5512

YANKALILLA
Martin Motors Pty Ltd
Main Street
P: (08) 8558 2052 Fax: (08) 8558 2911

YORKETOWN
Southway Holden
7 Minalaton Road
P: (08) 8852 1322 Fax: (08) 8852 1271

W.A. Metropolitan

CANNINGTON
Brian Gardner Holden
1308~1324 Albany Hwy
P: (08) 9356 9000 Fax: (08) 9458 9144

FREMANTLE
Shacks Holden
64 Queen Victoria Street
P: (08) 9432 9432 Fax: (08) 9432 9456

GOSNELLS
Gibbons Holden
2325 Albany Highway
P: (08) 9398 2211 Fax: (08) 9398 5683

MELVILLE
Melville Holden
532~540 Canning Highway
P: (08) 9333 5333 Fax: (08) 9333 5300

MIDLAND
Goldy Holden
161 Great Eastern Highway
P: (08) 9274 8000 Fax: (08) 9274 6042

MORLEY
Metro Motors Holden
212 Walter Road West
P: (08) 9449 3522 Fax: (08) 9449 3596

OSBORNE PARK
North City Holden
Cnr Scarborough Beach Rd & Harborne St
P: (08) 9273 2222 Fax: (08) 9273 2220

PERTH
City Motors
505 Newcastle Street
P: (08) 9422 7777 Fax: (08) 9422 7630

AUSTRALIAN HOLDEN RETAILERS cont.

ROCKINGHAM
Rockingham Holden
20 Smeaton Way
P: (08) 9550 9550 Fax: (08) 9550 9599

VICTORIA PARK
Youngs Holden
529 Albany Highway
P: (08) 9449 9449 Fax: (08) 9449 9494

WANNEROO
Phoenix Holden
5 Berriman Drive
P: (08) 9409 9200 Fax: (08) 9309 2140

W.A. Country

ALBANY
Mark Loveridge Holden
92~98 Earl Street
P: (08) 9842 8000 Fax: (08) 9841 8623

BRIDGETOWN
Kordics Bridgetown
183 Hampton Street
P: (08) 9761 1377 Fax: (08) 9761 2151

BROOKTON
Coote Motors
1 Robinson Road
P: (08) 9642 1108 Fax: (08) 9642 1003

BROOME
Norwest Holden
7 McPherson Street
P: (08) 9192 1277 Fax: (08) 9192 2230

BUNBURY
Bunbury Holden
3 Sandridge Road
P: (08) 9791 3899 Fax: (08) 9791 2990

BUSSELTON
Fennessy's
4~8 Bussel Hwy
P: (08) 9752 1577 Fax: (08) 9752 4080

CARNAMAH
T & H Walton Stores Pty Ltd
Robertson Street
P: (08) 9951 1130 Fax: (08) 9951 1082

CARNARVON
North West Autos
229 Robinson Street
P: (08) 9941 1159 Fax: (08) 9941 1363

COLLIE
Station Motors
84 Throssell Street
P: (08) 9734 1855 Fax: (08) 9734 1913

ESPERANCE
Dempster Holden
Norseman Road
P: (08) 9071 1155 Fax: (08) 9071 3799

GERALDTON
Young Motors
34 Cathedral Avenue
P: (08) 9921 1088 Fax: (08) 9964 1157

GNOWANGERUP
Umtali Nominees Pty Ltd
10 Youngenup Road
P: (08) 9827 1207 Fax: (08) 9827 1444

HARVEY
Stockman Holden
111 Uduc Road
P: (08) 9729 3333 Fax: (08) 9729 3221

KALGOORLIE
Golden City Holden
114 Boulder Road
P: (08) 9021 1699 Fax: (08) 9021 5737

KARRATHA
Moxham Motors
Lot 4551 Balmoral Road
P: (08) 9144 1225 Fax: (08) 9144 1258

KATANNING
Edwards Holden
159 Clive Street
P: (08) 9821 2388 Fax: (08) 9821 2429

KELLERBERRIN
Dowding Motors
1 Mitchell Street
P: (08) 9045 4141 Fax: (08) 9045 4466

KUNUNURRA
Elgee Holden
231 Bloodwood Drive
P: (08) 9168 2236 Fax: (08) 9169 1124

MANDURAH
Mandurah Holden
53 Pinjarra Rd
P: (08) 9535 8777 Fax: (08) 9535 8822

MANJIMUP
Manjimup Automotive Services
Pritchard Street
P: (08) 9771 1388 Fax: (08) 9777 1214

MOORA
Frank Lewis Holden
92 Gardiner Street
P: (08) 9651 1408 Fax: (08) 9651 1724

NAREMBEEN
Aquip Machinery
20 Churchill Avenue
P: (08) 9064 7214 Fax: (08) 9064 7065

NORTHAM
Withnell Motors
58 Fitzgerald Street
P: (08) 9622 1188 Fax: (08) 9622 3664

AUSTRALIAN HOLDEN RETAILERS cont.

PORT HEDLAND
Moxham Motors
15 Anderson Street
P:(08) 9173 3660 Fax: (08) 9144 1258

NEW ZEALAND HOLDEN RETAILERS

Auckland Metropolitan

HENDERSON
West City Holden
435 Great North Road
P: (09) 836 0097 Fax: (09) 837 5291

MANUKAU
Davie Motors Limited
58 Cavendish Drive
P: (09) 262 1012 Fax: (09) 262 1011

NEWMARKET
Schofield & Co. Limited
50 Great South Road
P: (09) 520 6369 Fax: (09) 524 1500

PANMURE
Moyes Motor Group Limited
510 Ellerslie/Panmure Highway
P: (09) 527 1200 Fax: (09) 527 8314

TAKAPUNA
Giltrap Holden
Wairau Road
P: (09) 444 8114 Fax: (09) 444 8008

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ALEXANDRA
Currie Motors
65 Centennial Avenue
P: (03) 448 6989 Fax: (03) 448 9384

AMBERLEY
Arthur Burke Limited
Markham Street
P: (03) 314 8121 Fax: (03) 314 8281

ASHBURTON
Smallbone Brothers Limited
Cnr. Burnett & Cass Streets
P: (03) 308 7159 Fax: (03) 308 5551

BLENHEIM
Wadsco Motors Limited
55-59 Scott Street
P: (03) 578 5199 Fax: (03) 578 2572

CHRISTCHURCH
Blackwell Motors Limited
Cnr. Cashell/Madras Streets
P: (03) 379 5500 Fax: (03) 366 4683

DUNEDIN
Cooke Howlison Limited
484 Andersons Bay Road
P: (03) 456 0570 Fax: (03) 455 5668

DARGAVILLE
Marcel Motors Limited
34 Victoria Street
P: (09) 439 7399 Fax: (09) 439 7399

GISBORNE
Enterprise Cars (1992) Limited
323 Gladstone Street
P: (06) 867 8368 Fax: (06) 867 1280

HAMILTON
Ebbett Waikato Limited
Anglesea Street
P: (07) 838 0949 Fax: (07) 838 3380

HASTINGS
Karamu Holden
Cnr. Karamu Road & Albert Street
P: (06) 876 6700 Fax: (06) 876 6664

HAWERA
Moller Johnson Motors (Hawera) Limited
39-49 Regent Street
P: (06) 278 7166 Fax: (06) 278 5054

INVERCARGILL
GWD-Russells Limited
22 Yarrow Street
P: (03) 218 2149 Fax: (03) 218 3309

KAIKOHE
Bay Motors Limited
Wihongi Street
P: (09) 401 1860 Fax: (09) 401 0883

KAITAIA
Jim Crene Motors Limited
Melba Street
P: (09) 408 1310 Fax: (09) 408 1311

LEVIN
Horowhenua Motor Co. Limited
1-11 Exeter Street
P: (06) 368 7169 Fax: (06) 368 8536

LOWER HUTT
Brendan Foot Motors Limited
16-18 Railway Avenue
P: (04) 587 0005 Fax: (04) 566 2311

MASTERTON
Wagg & Harcombe Limited
87-93 Dixon Street
P: (06) 377 5169 Fax: (06) 378 8840

MATAMATA
Matamata Motor Group Limited
2 Arawa Street
P: (07) 888 7059 Fax: (07) 888 5709

MORRINSVILLE
Nicholson United Autos
Thames Street
P: (07) 889 7042 Fax: (07) 889 3529

NAPIER
Karamu Holden
Cnr Wellesley Rd & Thakeray St
P: (06) 874 3033 Fax: (06) 834 1454

NEW ZEALAND HOLDEN RETAILERS cont.

NELSON
Nelson Bays Holden
2 Selwyn Place
P: (03) 545 7222 Fax: (03) 545 6057

NEW PLYMOUTH
Auto City
86 Molesworth Street
P: (06) 758 0919 Fax: (06) 758 5330

OAMARU
North Otago Motor Group Limited
24-30 Severn Street
P: (03) 434 5099 Fax: (03) 434 9983

OTOROHANGA
Pat Prescott Limited
205 Maniapoto Street
P: (07) 873 7119 Fax: (07) 873 7156

PAEROA
Linn Motors Limited
10-12 Belmont Road
P: (07) 862 8715 Fax: (07) 862 8711

PAHIATUA
Jones Motors Limited
34 Main Street
P: (06) 376 7524 Fax: (06) 376 7192

PALMERSTON NORTH
Robertson Motors
200 Rangitikei Street
P: (06) 358 1062 Fax: (06) 359 0303

PARAPARAUMU
Guy Weaver's Auto Village
Main Road
P: (04) 298 8089 Fax: (04) 298 7186

PUKEKOHE
Counties Motorcourt Limited
Cnr. Edinburgh & Tobin Streets
P: (09) 238 3259 Fax: (09) 238 3298

ROTORUA
Shorland Slater Limited
Old Taupo Road
P: (07) 348 3179 Fax: (07) 347 1503

STRATFORD
Ansford Johnson Limited
369 Broadway
P: (06) 765 6119 Fax: (06) 765 7410

TAUPO
Taupo Holden
Ruapehu Street
P: (07) 378 4130 Fax: (07) 378 0357

TAUMARANUI
Turaki Motors Limited
Hakiaha Street
P: (07) 895 7009 Fax: (07) 895 8909

TAURANGA
Ebbett Tauranga
Cnr. Wharf Street & Cameron Road
P: (07) 578 2843 Fax: (07) 578 6044

TE AROHA
Summit Motor Co. Limited
Kenrick Street
P: (07) 884 8174 Fax: (07) 884 8133

TE AWAMUTU
Rosetown Motors Limited
Cnr. Churchill & Mahoe Streets
P: (07) 871 5143 Fax: (07) 871 5045

TE PUKE
Bob Batchelor Motors Limited
Jellicoe Street
P: (07) 573 9781 Fax: (07) 573 6057

THAMES
Linn Motors
429 Pollen Street
P: (07) 868 9591 Fax: (07) 868 9595

TIMARU
Hervey Motors Limited
6 Sefton Street
P: (03) 684 7179 Fax: (03) 684 7176

UPPER HUTT
Twin Lakes Motor Company
Fergusson Drive
P: (04) 528 5609 Fax: (04) 527 8390

WANGANUI
Bob Burgess Motors Limited
1 Purnell Street
P: (06) 345 5588 Fax: (06) 345 5584

WELLINGTON
Williams & Adams
72-82 Taranaki Street
P: (04) 801 6777 Fax: (04) 385 7437

WHAKATANE
Harts Limited
Commerce Street
P: (07) 308 6334 Fax: (07) 307 1536

WHANGAREI
Mark Cromie Holden
5-13 Hannah Street
P: (09) 438 3199 Fax: (09) 438 2646

CHAPTER 10

Tow and load

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TOWING

IMPORTANT SAFETY NOTE: Wagons are limited to 1,200 kg when towing if fitted with LPG. Exceeding 1,200 kg will overload the vehicle, affecting the safety, handling and durability.

Your vehicle is designed primarily as a passenger vehicle (sedan and wagon) or as a commercial vehicle (utility), so handling, durability and economy may be affected by towing a caravan or trailer.

Refer to the chart on the facing page to see which equipment is specified as essential and which equipment is recommended for the weight you are towing. Your Holden Retailer will help supply and install towing equipment to suit your requirements.

Never exceed the loads given for the towing equipment fitted to your vehicle. For your safety and your vehicle's durability, all essential equipment must be fitted. Otherwise you may void your New Vehicle Warranty, to the extent that Holden considers the overloading or missing equipment to have affected the specifications or quality of your vehicle.

Driving speed

When towing up to 1,600 kg the maximum driving speed is as per the State's Law.

When towing between 1,600 kg and 2,100 kg the maximum driving speed must not exceed 80 km/h.

WARNING:

Holden towing equipment is recommended where it is available. Where it is not available, no recommendation is made as to the make of equipment which should be used. Holden will not accept liability for defects occurring in towing equipment not marketed by Holden or for defects in the vehicle arising from the use of such equipment. The use of such equipment may void your New Vehicle Warranty, to the extent that Holden considers the non-recommended equipment affects the specifications or quality of your Holden vehicle. It is inadvisable to mix and match different brands of towing equipment, as equipment is usually designed as an integrated package.

TOWING EQUIPMENT

Up to 1,200 kg	Essential	Holden 1,200 kg rated tow bar
	Essential	Holden trailer wiring harness
	Recommended	A load distribution hitch is recommended if towing a single axle trailer / caravan that weighs more than 750 kg when loaded
	Recommended	Trailer brakes
Between 1,200 kg and 1,600 kg	Essential	Holden 1,600 kg rated tow bar
	Essential	Holden trailer wiring harness
	Recommended	A load distribution hitch is recommended when towing a single axle trailer / caravan
	Essential	Electric or hydraulic brakes on the trailer / caravan
	Essential	Automatic transmission essential if vehicle has a V6 engine
	Essential	Heat shields for the rear muffler and the centre bearing
Between 1,600 kg and 2,100 kg **(NOT UTILITY)**	Essential	Holden 2,100 kg rating tow bar
	Essential	Holden trailer wiring harness
	Recommended	Adjustable load distribution hitch
	Essential	Electric or hydraulic brakes on the trailer / caravan
	Essential	Automatic transmission
	Essential	Heat shields for the rear muffler and the centre bearing
	Essential	Superlift shock absorbers
	Recommended	When towing over 80 km/h with a V6 (nonsupercharged) engine, it is highly recommended to use synthetic differential oil.

Note: Utility MUST NOT tow above 1,600 kg.

LOADING THE VEHICLE – Sedan and Wagon

Overloading is a safety hazard and could also shorten the life of your vehicle. The recommended carrying capacity of your vehicle is, typically, as shown.

SEDAN – five occupants plus 68 kg luggage (408 kg load in total).

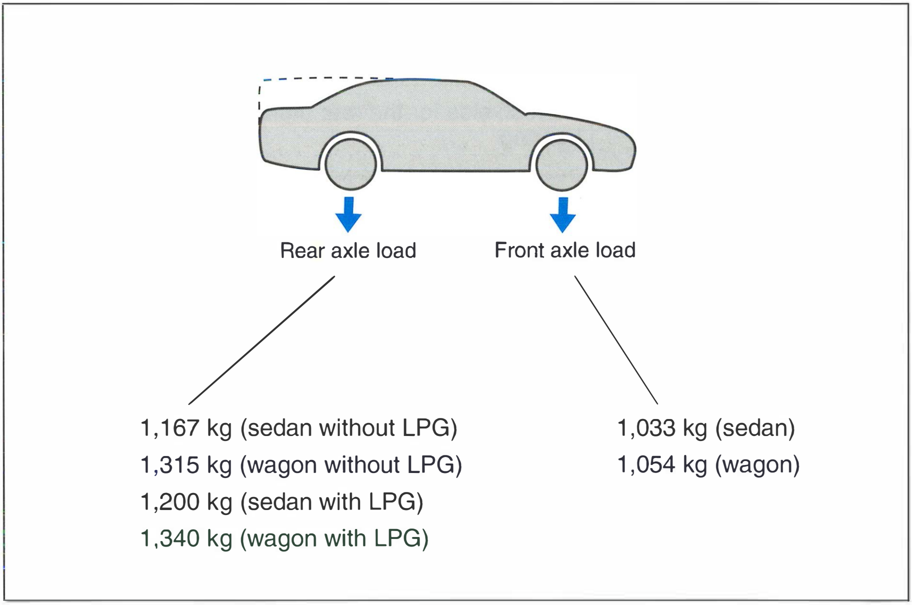
WAGON – five occupants plus 140 kg luggage (480 kg load in total).

However, do not exceed the maximum axle loads shown below in the diagram, considering the weight of any fitted Holden approved accessories.

If unsure, the vehicle should be weighed at a weighbridge. Remember that weight on a roof rack must be included in calculating the total load.

Note: Due to lack of room, the 3rd row child seat (sold as a Holden accessory) must not be fitted if the wagon is fitted with LPG.

Maximum front and rear axle loads – Sedan and Wagon


Rear axle load
Front axle load
1,167 kg (sedan without LPG)
1,315 kg (wagon without LPG)
1,200 kg (sedan with LPG)
1,340 kg (wagon with LPG)
1,033 kg (sedan)
1,054 kg (wagon)

LOADING THE VEHICLE – Utility

Overloading is a safety hazard and could also shorten the life of your vehicle. The recommended carrying capacity (maximum load including two passengers) of your vehicle is shown in the following table.

Maximum carrying capacities (kg)

TRANS	**AUTO**			**MAN**	
ENGINE	**V6**	**V6 & LPG**	**V8**	**V6**	**V8**
UTE	695	584	640	642	648
'S'	587	476	535	610	543
'SS'	NA	NA	529	NA	537

However, do not exceed the maximum axle loads shown below in the diagram, considering the weight of any fitted accessories.

If unsure, the vehicle should be weighed at a weighbridge.

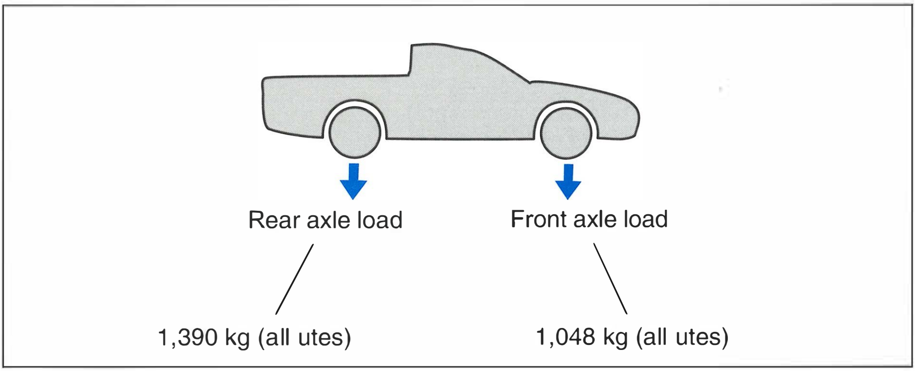
When loading the rear tray, the load should be placed directly over or forward of the rear axle.

Gross Vehicle Mass (weight)

The Gross Vehicle Mass (GVM) is the maximum that a vehicle is allowed to weigh when fully loaded. This must include any accessories, luggage, passengers, roof rack load, tow bar ball load and a full tank of fuel. Refer to the safety compliance plate on your vehicle for GVM.

Maximum front and rear axle loads – Utility

Make sure that the combined front and rear axle loads do not exceed the GVM.



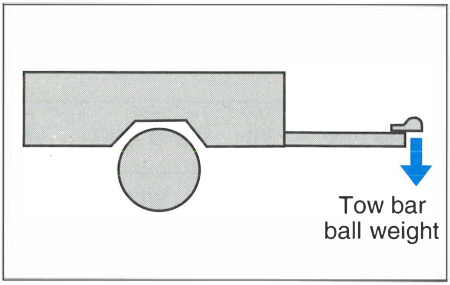
ATTACHING A TRAILER

Recommended procedure for attaching a trailer

If a caravan or trailer is hitched to the vehicle it places a weight on the tow bar, this weight is called the 'tow bar ball weight'.

It is recommended that the tow bar ball weight should be 10% of the packed trailer / caravan weight. This can be adjusted by correctly packing the contents of the trailer / caravan, i.e., by moving items forwards or backwards within the trailer / caravan so as to change the balance of the trailer /caravan.

If the tow bar ball weight is too light or too heavy, the steering and handling of the vehicle will be affected.



All towing

1. Axle loads must not be exceeded when the tow bar ball weight is included (refer previous page for maximum axle loads). If maximum axle loads are exceeded, sufficient weight should be removed from the rear of the vehicle and transferred onto the trailer.
2. Ensure the weight of the packed trailer is not greater than the towing capacity of your Holden approved tow bar package.
3. Connect the trailer to the vehicle.

When towing over 1,200 kg

4. Adjust superlift shock absorbers, if fitted (refer to page 10-3 for requirement of superlift shock absorbers). Note that if towing at maximum trailer capacity, apply the maximum of 300 kPa pressure.
5. Adjust load distribution hitch so that the vehicle and trailer are level with the ground.

Example:

- Wagon loaded with five occupants (with an average weight of 68 kg each) and 140 kg of luggage in the rear load area. This is the maximum load allowable.
- Trailer then hitched up, weighing 1,000 kg when loaded. The trailer has been correctly balanced so as to provide 10% of its weight on the tow bar. This translates to:

140 kg	(existing luggage)
+ 100 kg	(10% of trailer weight)
= 240 kg	loaded on the wagon

The wagon is now overloaded at the rear.

- Therefore, move 120 kg of luggage into the trailer. This now translates to:

20 kg	(luggage)
+ 112 kg	(10% of the trailer, which now weighs 1,120 kg)
= 132 kg	loaded on the wagon

The wagon and trailer are now correctly loaded, as this weight is under 140 kg.

TOWING and LOADING EQUIPMENT

Load distribution hitch

- A load distribution hitch is recommended when towing more than 750 kg.
- A load distribution hitch is designed to raise the rear of the vehicle and transfer a portion of the load to the front wheels when the loaded trailer / caravan is hitched.
- The loaded vehicle and trailer should be level to the ground.

Booster springs and superlift shock absorbers (if fitted)

The use of booster springs or superlift shock absorbers DOES NOT increase the carrying capacity of the vehicle. Maximum loads for your vehicle must NOT be exceeded, otherwise overloading of axle parts may shorten the life of your vehicle.

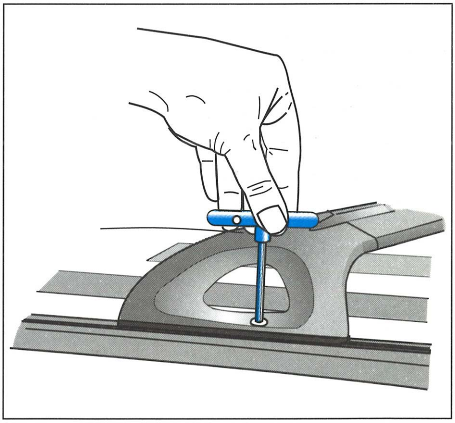
However, superlift shock absorbers do allow adjustment of the vehicle's height, so that you have improved handling and better ground clearance in rough terrain when the vehicle is heavily loaded.

WARNING:

1. Do not drive with superlift shock absorbers inflated when the vehicle is not loaded, as vehicle handling is affected. The vehicle should be at normal level.
2. Always ensure that superlift air pressures are within the minimum and maximum pressures shown on the tag attached to the air pressure valve. When towing 2,100 kg the superlift shock absorbers should be adjusted to 300 kPa.

Roof racks (if fitted)

Roof rack loads alter the handling of a vehicle, due to a change in the centre of gravity. When carrying loads on the roof rack, avoid abrupt swerving or sharp steering. The load, including the weight of the roof rack, must not exceed 50 kg for sedans or 80 kg for wagons and should be evenly distributed.



The crossbars on the wagon roof rack can be adjusted using a special key, provided in the glovebox of your new vehicle.

To adjust, loosen the screws at both ends of the crossbar with the key. Move the crossbar backwards or forwards as required, then tighten the screws with the key.

Note: Remember that weight of the roof rack and its load must be included when calculating the total load.

TOWING PRECAUTIONS

- When heavily loading your vehicle or when towing, your tyres should be inflated to the maximum recommended pressure (refer to Chapter 7 for tyre placard location and information about tyre pressures). Also refer to Chapter 4, under 'Loading the vehicle' for driving information with increased loads.
- Ensure that a load distribution hitch is correctly distributing the ball load and that superlift shock absorbers are adjusted correctly (if fitted), refer to page 10-7.
- Tighten the tow ball retaining nut to 175 Nm and check the torque frequently.
- Your vehicle will handle differently when towing. It is a good idea to make a couple of short distance trips with the caravan or trailer before you set off on the big one.
- Have your vehicle correctly maintained and serviced.
- Have your caravan or trailer maintained and serviced, with particular attention given to condition of brakes, tyres, suspension, wheel bearings, towing coupling and lighting.
- You should have an extended-arm mirror on both sides of your vehicle.
- Headlights may need re-aiming after the loaded caravan has been hitched, particularly if a load distribution hitch is not used.
- Use a lower gear, rather than your brakes, when descending steep hills.
- If your caravan or trailer moves off the road behind you, allow the left wheels of your vehicle to move off as well. When it is safe to do so, carefully steer back on to the road. A sudden attempt to steer back could make you swerve dangerously.
- *Automatic transmission:* To stop the transmission constantly changing between 3rd and 4th gear, it is recommended that the 'Power' mode be selected when towing. Refer to page 4-5 for selection of 'Power' or 'Normal' modes.
- Do not use axle-mounted hitches. They can cause damage to the axle housing, wheel bearings, wheels and tyres.
- Ensure that the tow bar does not obscure the rear licence plate. If necessary, remove the tow bar tongue when it is not required for towing.
- If a tow bar is removed:

  Be certain to have any mounting holes in the underbody properly sealed to prevent the possible entry of exhaust fumes, dust and water.

  The Reverse Parking Aid (RPA – if fitted) will require adjustment to allow for the tow bar removal, refer to Chapter 1 for adjustment details on the RPA.
- TRAILER BRAKES:

  Trailer brakes are recommended on trailers weighing 500 kg and over when loaded.

  The brakes on the trailer or caravan must be designed to cope with the braking requirements of that trailer or caravan under all towing conditions, without adversely affecting the brakes on the vehicle.

  Different types of brake signalling devices are available for trailers, such as electric, overrun or hydraulic signalling. If a hydraulic signalling type is used, it must not displace more than 0.21 cc of fluid during braking. It must not be fitted to the front brake system, only to the rear brake system. While no recommendation is made by Holden with regard to the manufacturer of the brake system, the specifications issued by PBR indicate that their unit meets Holden requirements.

TOWING PRECAUTIONS cont.

Running-in when towing

It is recommended that you drive your new vehicle for at least 1,500 km before towing. If you must tow before this do not exceed 80 km/h. The same applies if you have a new or reconditioned engine, transmission or rear axle.

Vehicle maintenance

More frequent vehicle maintenance is required when using your vehicle to pull a trailer or caravan, refer to the service booklet in your vehicle's glovebox. For example, if an automatic transmission is fitted, the transmission fluid should be changed every 12 months or 20,000 km.

Curb weight

Some States specify that the load being towed must not exceed the weight of the vehicle. The curb weights provided below, are for a standard unloaded vehicle, without options but with a full tank of fuel.

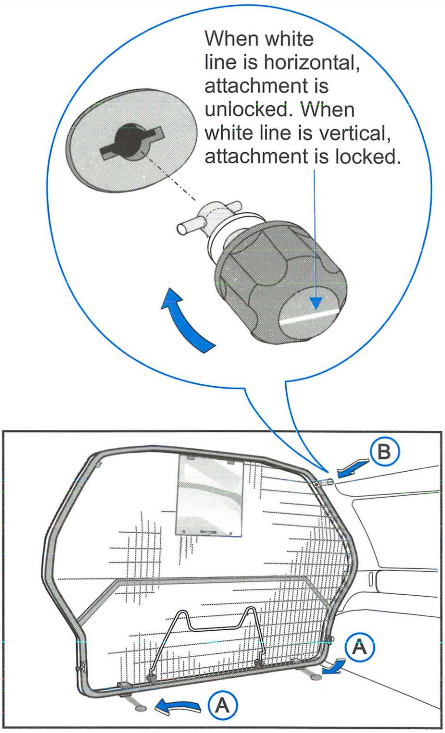
	3800 (V6) engine	**Gen III (V8) engine**
Sedan – Executive	1,543 kg	1,628 kg
Sedan – Berlina	1,584 kg	1,639 kg
Sedan – Calais	1,642 kg	1,667 kg
Wagon – Executive	1,606 kg	1,685 kg
Wagon – Berlina	1,655 kg	1,711 kg
Utility – auto	1,519 kg	1,590 kg
Utility – man	1,497 kg	1,583 kg
Utility – 'S' auto	1,536 kg	1,559 kg
Utility – 'S' man	1,525 kg	1,604 kg
Utility – 'SS' auto	NA	1,621 kg
Utility – 'SS' man	NA	1,612 kg

WAGON CARGO BARRIER (if fitted)

Your new cargo barrier has been designed to fit at two positions. It can be fitted behind the rear seats when they are upright, or behind the front seats when the rear seat is folded down.

Behind upright rear seat

1. For this position, the extension arms and folding centre leg are not required. Ensure that all are folded back and tied away securely.
2. With the cargo barrier's compliance plate facing to the rear, tilt the cargo barrier back and lift into the wagon load area.
3. Place the cargo barrier directly behind the rear seat.
4. Move the short bottom straps so that the screw aligns with the nut in the floor. Insert the screws into the holes 'A' in the floor and turn the screws clockwise to tighten.
5. Tilt the top of the cargo barrier up towards the roof and align the top attachments with roof rear attaching holes 'B'.
6. Push the attaching pins of the cargo barrier firmly into the roof and turn 90° to lock.
7. Ensure that all attachments, top and bottom, are firmly secured.

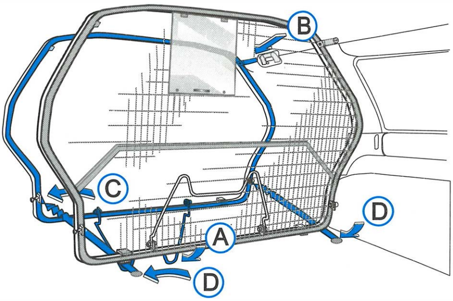


When white line is horizontal, attachment is unlocked. When white line is vertical, attachment is locked.

Note: When moving or removing the cargo barrier, reverse this fitting procedure.

WAGON CARGO BARRIER (if fitted) cont.

Behind front seats – with rear seat folded



1. Remove rear head restraints (if fitted) and fold down the rear seat, refer to Chapter 3.
2. Remove the restraining tie from the centre leg of the cargo barrier. Slide the plastic sleeves on the long straps outwards to release the long straps, then rotate the centre leg of the cargo barrier down to the floor. Resecure the long straps with the plastic sleeves.
3. Rotate the centre leg to the vertical, 'down' position 'A'
4. With the cargo barrier's compliance plate facing to the rear, tilt the cargo barrier back and lift into the wagon load area.
5. Lift the cargo barrier behind the front seats, with the centre leg resting on top of the transmission tunnel (position 'A').
6. Tilt the top of the cargo barrier up towards the roof and align the top attachments with roof front mounting locations 'B'.
7. Push the attaching pins of the cargo barrier firmly into the roof and turn 90° to lock into position, refer to the illustration on the previous page.
8. Slide the plastic sleeves outwards to release the long straps and pivot the long straps rearward (position 'C') so that the screw aligns with the nut in the rear floor. Insert the screws (position 'D') and turn the screws clockwise to tighten.
9. Ensure that all attachments are secured firmly.

Note: When moving or removing the cargo barrier, reverse this fitting procedure.

WAGON CARGO BARRIER (if fitted) cont.

Carrying heavy loads in the rear cargo area

When carrying heavy loads Holden recommends fitting a genuine Holden cargo barrier, designed to reduce cargo impact to passengers in an accident.

WARNINGS:

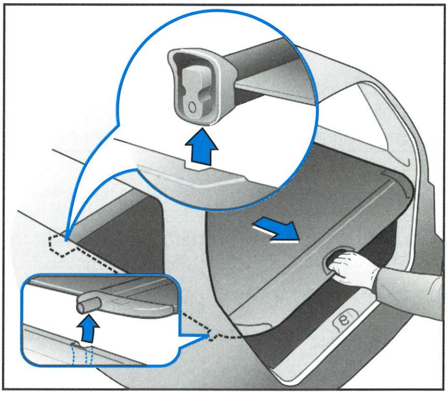
1. Place loads against the cargo barrier.
2. If involved in an accident or accidentally damaged, the cargo barrier should be replaced and the anchorages inspected by an authorised Holden Retailer.
3. Adult passengers should not ride in the cargo area and children should only ride in the cargo area when restrained in a Holden accessory seat. The cargo barrier must be removed when children are riding in a Holden accessory seat.
4. Remember that the tailgate cannot be opened from inside the cargo barrier area. Never leave children in the cargo area unattended if a cargo barrier is fitted.
5. Take care when placing loads behind the cargo barrier so as to prevent damage to child restraint anchorages and seat belt webbing in an accident.
6. In an accident, cargo may cause the cargo barrier to deform towards passengers.
7. The plaque must not be removed from the cargo barrier.
8. Clean the cargo barrier only with mild soap and water. Do not use solvents or chemicals. Discard the cargo barrier if it becomes rusted. Do not expose to direct sunlight.
9. Do not obstruct seat belts or child restraints, or their operation.
10. Seat, seat belts or child restraint anchorages must not be used to secure the cargo barrier.
11. Long thin items of cargo should be placed length ways across the vehicle to minimize the risk of penetration.
12. Do not attach (drill, rivet, stick etc.) objects to the front or rear of the cargo barrier.
13. The maximum load for a genuine Holden cargo barrier is 60 kg single mass. That is, if an object weighs 60 kg, only one object is permitted behind the cargo barrier.
14. Ensure that the window locates over the pins when closed.
15. Window must not be left opened.
16. Replace the poly window if it becomes hazy.
17. Do not use this cargo barrier in any other vehicle for which it is not designed.

WAGON CARGO BLIND (if fitted)

The cargo blind is located in the rear compartment of the wagon. When the blind is required, it can be extended to provide protection from the sun and added security for goods stored in the back of the wagon.

To extend the cargo blind:

1. Grip the handle in the centre of the blind and pull it towards you.
2. Hook the tabs on either side of the blind into the slots provided in the rear trim panels and release the handle.



When the blind is not required, it can be retracted or removed altogether.

To retract the cargo blind:

1. Grip the handle in the centre of the blind and pull it gently towards you while lifting it out of the trim slots.
2. Gently let the blind retract back into its housing while holding the handle
3. Release the handle once the blind has fully retracted.

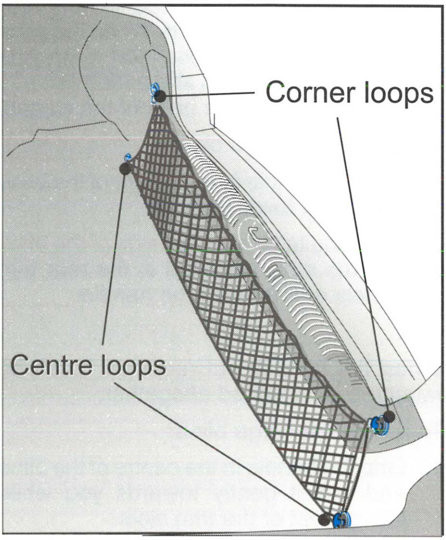
To remove the cargo blind:

1. Retract the cargo blind.
2. Unclip the cargo blind housing from the tab slots on either side of the rear trim panels by lifting the ends of the blind vertically.
3. Remove the blind from the vehicle and store it in a safe place.

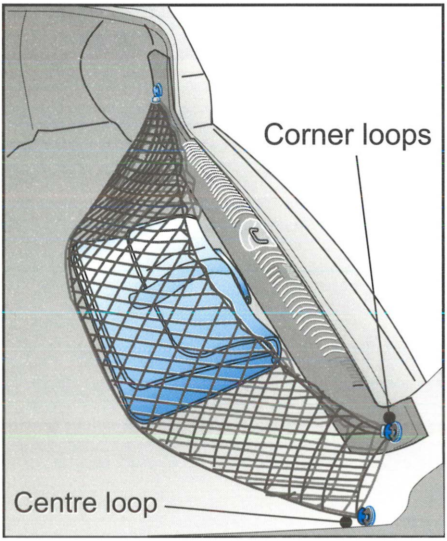
SEDAN CONVENIENCE NET (if fitted)

The convenience net is provided inside the boot of the sedan to secure goods.

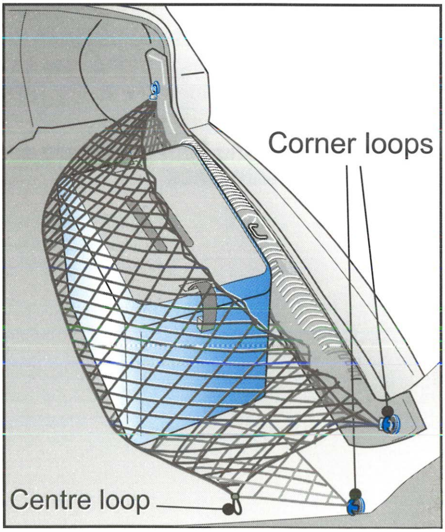
Four hooks are provided in the vehicle (two on the left side, two on the right) and six loops are provided on the convenience net. This allows different ways of attaching the net to accommodate different sized objects.



When the net is not required for big objects, attach the four corner loops of the net to the top two hooks on the vehicle (two on one side, two on the other) and attach the net's two centre loops to the bottom hooks on the vehicle.



When the net is required for holding objects such as a briefcase or groceries, the net can be opened and the objects placed inside.



If larger objects, such as a car fridge, are to be secured, the net can be hooked as shown, i.e. with a corner loop on each hook and the centre loops unhooked.

The maximum load capacity of the net is 15 kg.

CARRYING GAS CYLINDERS IN VEHICLES

WARNING:

Gas cylinders can leak, creating a risk of fire or explosion. As a precaution, ensure adequate ventilation when carrying gas cylinders. They must be restrained from rolling around, and where possible, placed in the load area of the vehicle. It is recommended that if gas cylinders are frequently transported that a purpose-built carrying compartment be used.

CHAPTER

11

Cleaning

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11-3 Cloth fabrics
11-3 Carpet
11-3 Leather trim
11-3 Seat belts
11-3 Interior glass

EXTERIOR CLEANING

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11-4 Washing
11-5 Grease, oil and tar spots
11-6 Polishing
11-6 Wheels and tyres
11-7 Exterior glass
11-8 Cleaning products

INTERIOR CLEANING

WARNING:
Many cleaners may be toxic, flammable or may damage the interior. When cleaning the interior, avoid volatile cleaners such as: acetone, lacquer thinners, enamel reducers, nail polish removers, or cleaners such as laundry soaps, bleaches or reducing agents. Never use carbon tetrachloride, petrol or naphtha for any cleaning purpose. Be sure the vehicle is well ventilated while using any cleaners and always follow the cleaning product manufacturer's recommendations. Water based cleaners, rather than solvent based cleaners, are recommended.

Steam cleaning of seats is not recommended.

Care and cleaning of upholstery

Dust and dirt which accumulate on upholstery should be removed every few weeks – more often with constant driving. This can be done readily with a vacuum cleaner. Before attempting to remove spots and stains, it is necessary to determine as accurately as possible:

- The type of fabric.
- The nature and age of the stain.
- The effect of the stain removal agent on the upholstery.

Remove the stains as soon as possible after they have been made. If they are allowed to remain for any length of time they very often become oxidised or set, and removal becomes very difficult, if not impossible.

Calais door trim

Marks on the velour fabric, which extends to the bottom of the door, can be cleaned off using mild, soapy water on a clean cloth, rubbed in the direction of the pile. When dry, a soft brush may be used to smooth the pile.

Vinyl

Vinyl fabrics are used for seating, headlinings and auxiliary trimming. The surface should be wiped over with a dry cloth during the regular cleaning of the vehicle.

Should dirt accumulate and become embedded in the material pattern:

1. Use luke warm water and soap, or a good quality velour fabric and vinyl cleaner, to work up thick suds on a piece of cheesecloth and apply to the surface. A soft bristle brush can be used to remove embedded dirt and stubborn stains.
2. Repeat using only a damp cloth and no soap.
3. Wipe dry with a soft cloth. The above cleaning instructions also apply to the rubber floor mats.

INTERIOR CLEANING cont.

Cloth

- Most loose dirt and dust can be removed by a vacuum cleaner or soft brush.
- DO NOT use a whisk broom or a coarse hair brush.
- For normal soiling, sponge lightly with warm water containing a mild detergent. The fabric should then be rubbed lightly, and if necessary, sponged again to remove anything stubborn. Soak up excess fluid with a dry cloth. A good quality velour fabric and vinyl cleaner may be used, but should be used sparingly.

Carpet

Thoroughly brush or vacuum the carpet. In many instances the carpet may require no further cleaning. If the carpet is extremely soiled, thoroughly vacuum it to remove loose dirt then, using a good quality velour fabric and vinyl cleaner, clean a small area at a time. After each area is cleaned, remove as much of the cleaner as possible with a vacuum cleaner.

Secured carpet mats (if fitted)

Retainers are provided to hold carpet mats in place. Use a screwdriver or similar (not the car key) to undo the retainers when required. To replace, push the retainer on the back of the mat into the hole in the carpet and turn clockwise to secure.

Leather

To remove surface dust and grit, regularly wipe leather with 'Softly' or similar or mild detergent in warm water using a soft cloth or sponge. Clean leather every 3 months with Holden Leather Cleaner or a mild saddle soap and a damp soft cloth to remove in-ground dirt which is not visible. Allow leather to dry naturally and apply Holden Leather Protector or a colourless bee's wax dressing. To revitalise the leather upholstery use Holden Leather Revitaliser.

Seat belts

Clean seat belts only with a mild, non-abrasive soap and luke warm water. After washing, be sure to thoroughly sponge the washing solution out of the belts.

WARNING:

Do not bleach or dye seat belts as this may severely weaken them.

Interior glass

The interior glass area of the vehicle should be cleaned using Holden Glass Cleaner with a clean soft cloth. Care must be taken when cleaning inside the rear window so as not to damage the rear window demister.

Never use abrasive cleaners on any vehicle glass, as they can cause scratches.

CARING FOR PAINT

To help preserve that shiny new car finish, special attention should be given to correctly treating those conditions that can damage the paint.

Road bloom: If, over a long period of time, oils, dirt, exhaust and other pollutants are allowed to build up, they may combine to affect the paint finish.

Etching: Tree sap, bird droppings, salt water and other natural deposits can, if allowed to stay on the paint, leave an etching or scarring.

Pitting: Tar spots and some industrial fallout can react chemically and may cause pitting to the surface of the paint.

Paint inspection

Regular inspection of the vehicle should be made for scratch marks, cracks or damaged areas, all of which could develop rust. Any deep scratches, cracks or breakdown in the finish should be repaired without delay. Care should be taken to ensure that any rusting is counteracted immediately, otherwise rust 'creep' will extend beyond the damaged area, particularly in tropical or coastal areas, where the moist, or salt-laden air accelerates rusting. The paint finish of the vehicle gives a very high degree of protection against the weather, but it should be realised that wear and deterioration occur when the vehicle is exposed to elements for prolonged periods. The vehicle therefore should be garaged whenever possible.

To prevent damage of the paint surface, foreign matter should always be removed as soon as possible.

Note: Due to the acidity, it is recommended that foreign matter such as bird droppings be removed within 24 hours.

The way the paint keeps its condition over time can be assisted by you. The easiest way to keep that paint looking bright and shiny is to keep it clean. A wash once a week will do wonders. However, it must be done correctly.

Washing your vehicle

1. Never use an automatic wash that has anything that touches the paint other than water.
2. Wash your vehicle once a week to remove any build up of road grime that may have been deposited on your paint.
3. Find a cool, shady spot to wash it. Never wash it in direct sunlight.
4. Hose the vehicle down from top to bottom with lots of cold water. This removes any grit or other loose particles and substances. Do not use a sponge or cloth yet.
5. Fill a bucket with luke warm water and add no more than 2 capfuls of gentle detergent, such as Holden Hi Suds Car Wash. Do not use hot water, strong soap or chemical detergents.
6. To remove bird droppings, soak with a wet sponge for several minutes before washing off. If still persistent, use a solution of 1 litre of water and 110 grams of dissolved baking soda (Bicarbonate of Soda). Flush the washed parts with clean water.
7. Starting with the roof, use a clean sponge to clean a small section at a time. Do not allow liquid to dry before rinsing off that section with clean water. When you have completed all sections, rinse the whole vehicle again with cold water.
8. Dry the clean vehicle thoroughly with a good quality chamois.

CARING FOR PAINT cont.

WARNING:

Care should be taken when moving the vehicle after washing, in case water has affected the brakes. Applying the brakes lightly will indicate whether they have been affected. To dry them quickly, lightly apply the brakes while maintaining a slow forward speed with a clear area ahead, until brake performance returns to normal.

Removing stains, such as grease, oil and tar spots

Just washing you vehicle regularly means that most of the harmful substances deposited on the paint will be removed before they can cause permanent damage. However, some substances are not easy to remove. So if you notice stains on the paint, make sure that you remove them at the earliest possible opportunity.

Grease and oil, and even tar if it's fresh, can be removed from the paint with a little kerosene or turpentine. As a precaution against staining, wash and polish the area as soon as possible after the stain has been removed.

A rubbing or cutting compound can be used after a normal wash. But this should never be done on a regular basis because it removes paint.

WARNINGS:

- Some chemical cleaners used for removing road oils and tars from painted surfaces have been found to be detrimental to automotive paint.
- If petrol is spilt on the paint when refilling, flush off immediately with clean water, as petrol has a tendency to stain or soften new paint finish during the weathering out period, particularly when the vehicle is exposed to high temperatures.
- Petrol MUST NOT be used to clean any painted or plastic surfaces.

Air intakes

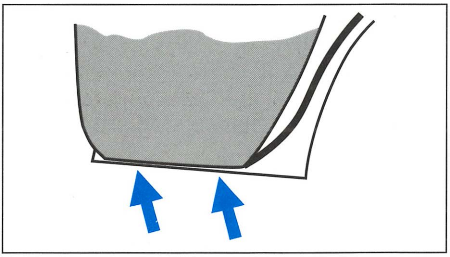
The intake area between the bonnet and windscreen may collect leaves, which will impair air flow into the vehicle. Also, the air intake area below the front bumper of the V8 SS models may collect leaves and road grime, which will impair engine cooling. It is recommended that these areas be cleared of debris whenever you wash your vehicle.

Under vehicle washing

The effects of salt etc. from road surfaces can cause rust under the vehicle. The underbody should be hosed with plain water whenever the vehicle is being washed. In geographical areas having a heavy concentration of corrosive materials (such as by the sea) it is recommended that the complete underbody be inspected and washed at least once each year, preferably after a winter's exposure. Particular attention should be given to cleaning out the underbody where dirt and other foreign materials may have collected.

Door drain holes

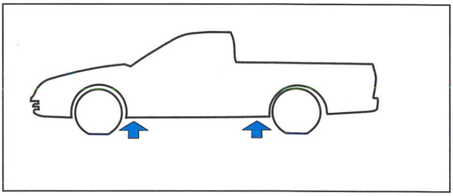
It is important that the drain holes at the bottom of the door panels are checked to make sure that they are free of dirt and other foreign materials which could trap water inside the panels. Clogged drain holes can be cleaned with a small screwdriver and these drain holes are angled towards the rear of the vehicle.



EXTERIOR CLEANING, WHEELS AND TYRES

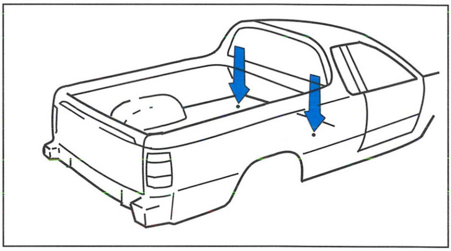
Rocker sill vents – Utility

Vents should be regularly checked to see that they are clear of blockage, using a blunt instrument. These vents are formed as cutouts in the sheet metal along the bottom edge of the rocker sill.



Floor drain holes – Utility

Two drain holes are located on the tonneau floor, behind the cabin. Regular cleaning with a hose or similar will ensure that the holes remain clear, so that water can drain away from the loading area.



Polishing

Under normal circumstances the paint does not need polishing to retain its shine. A weekly wash is sufficient. However, the use of a good quality Polymer Glaze, such as Holden Quick and Easy Speed Finish, about every 3 months will reduce the effects of road bloom by removing natural contaminants which can build up on the paint.

DO NOT ATTEMPT TO APPLY A POLISH WITHOUT FIRST WASHING THE VEHICLE TO REMOVE LOOSE GRIT, SURFACE DIRT, DUST OR GREASE ETC.

Tyres

Sponging with cold water is all that is necessary for normal cleaning. Oil and grease should be removed with soap and water or detergent. For tar or other substances, a mild abrasive, such as mechanic's hand soap or kitchen cleaning powder, may be used if necessary. Thoroughly wash the tyres with water to finish. Petrol must not be used for cleaning tyres.

New tyre look can be restored using a good quality tyre and bumper shine.

Alloy wheels

To preserve the original appearance of alloy wheels, keep them clean and free from build up of road dirt. A good quality wheel cleaner can be used for cleaning alloy wheels. Do not use abrasive cleaners on alloy wheels.

EXTERIOR GLASS CLEANING

Glass cleaning – general

Special care should be taken to avoid scratching the glass. If it is cleaned at the same time as the rest of the vehicle, there is a possibility that particles of grit will cause fine scratches. Flush off any mud on the glass when washing the body, but leave the final cleaning and polishing until afterwards. Use Holden Glass Cleaner and wash each section of glass in turn, making sure that the water, its container and the sponge are quite clean and free from grit. Clean old linen cloth is better than new material for polishing glass.

Windscreen

It is important that the windscreen be kept clean so that the wiper blades may be as effective as possible. Old wiper blades can cause windscreen scratching and so should be regularly inspected and replaced.

Abrasive cleaners should never be used to clean glass as they can cause scratches, impairing night vision. After the windscreen has been cleaned with a wet sponge it should be wiped over with a soft, lint free cloth or chamois.

It is recommended that Holden Optikleen windscreen washer additive be added to the windscreen washer reservoir.

Wiper blades

Oil and road scum thrown up on the windscreen will cause smearing when the wipers are switched on, when the dirt is transferred onto the wiper blades. Many owners, whilst they methodically clean the windscreen glass, omit to clean the wiper blades and consequently smearing of the glass reappears immediately the wiper blades are used. The blades can be cleaned by lifting them off the windscreen and cleaning with Holden Optikleen and a clean cloth.

DO NOT OPERATE THE WIPER BLADES BY HAND AS THIS MAY DAMAGE THE WIPER DRIVE MECHANISM

If the wiper blades are used to clean dust and dirt from the windscreen in dry conditions always use the washer system first to wet the windscreen. Ensure that the windscreen washer reservoir is not empty.

Should the wiper blades be frozen to the windscreen, they must be lifted off and freed by hand before switching on the wipers.

CLEANING PRODUCTS

PART NUMBER	SIZE	DESCRIPTION	USAGE
92145132	237 ml	Quick and Easy Speed Finish	Seals in a deep, lustrous glazed finish. Long life protection from oxidation, salt and weather damage.
92145418	437 ml	Quick and Easy Speed Finish	Seals in a deep, lustrous glazed finish. Long life protection from oxidation, salt and weather damage.
92145130	237 ml	All Purpose Cleaner	Cleans and deodorises velour, most vinyl upholstery, hood linings, mats and carpets, etc.
92145416	437 ml	All Purpose Cleaner	Cleans and deodorises velour, most vinyl upholstery, hood linings, mats and carpets, etc.
92145133	237 ml	Glass Cleaner	Cleans all glass surfaces.
92145419	437 ml	Glass Cleaner	Cleans all glass surfaces.
92140005	500 ml	Optikleen	Windscreen washer solvent.
92140004	5 ml	Optikleen Sachet	Windscreen washer solvent; 1 sachett per washer bottle refill.
92145129	237 ml	Hi Suds Car Wash	Cleans vehicle exterior.
92145415	437 ml	Hi Suds Car Wash	Cleans vehicle exterior.
92145131	237 ml	Vinyl and Trim Dressing	Seals and protects vinyl upholstery and plastic trim.
92145417	437 ml	Vinyl and Trim Dressing	Seals and protects vinyl upholstery and plastic trim.
92145140	120 ml	Leather Revitaliser	Revitalises the leather upholstery.
92145141	120 ml	Leather Cleaner	Cleans the leather upholstery.
92145142	120 ml	Leather Protector	Protector the leather upholstery.
92145143	1 Kit	Leather Care Kit	Contains leather revitaliser, cleaner and protector.
92145135		Chamois	Cloth for wiping off excess water from the vehicle's exterior after washing and rinsing.
92145134		Handle Grip Sponge	Sponge for washing the vehicle.
92145136		Microfibre Glass Cleaning Cloth	Cloth for cleaning all glass surfaces.
92145137		Microfibre General Purpose Cleaning / Polishing Cloth	Cloth for general purpose cleaning / polishing.

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